

TENNESSEE

Economic & Workforce Analysis

PY 2022-2023

Economic Analysis

The Unified or Combined State Plan must include an analysis of the economic conditions and trends in the State, including sub-State regions and any specific economic areas identified by the State. This must include—

- (i) Existing Demand Industry Sectors and Occupations.** Provide an analysis of the industries and occupations for which there is existing demand.
- (ii) Emerging Demand Industry Sectors and Occupations.
- (iii) Employers' Employment Needs.

(A) Economic Analysis
(i) Existing Demand Industry Sectors and Occupations

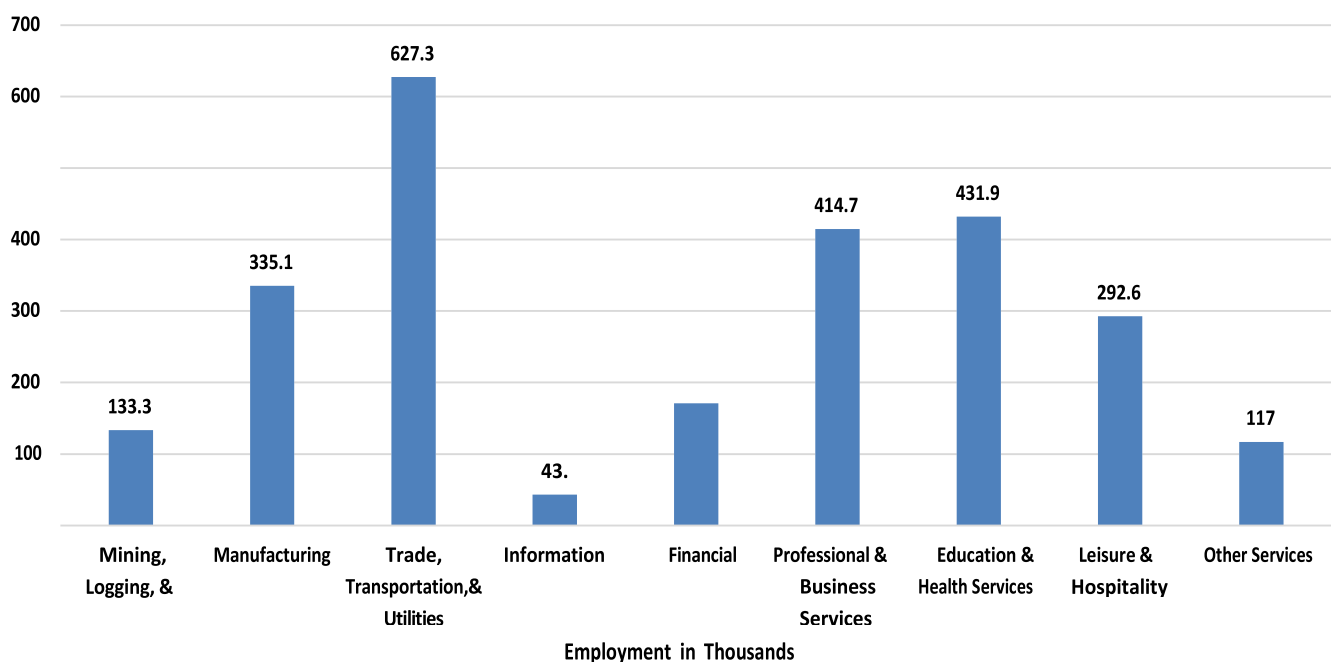
Tennessee Industry Employment 2015-2020

Tennessee's average annual nonfarm employment decreased 4.0 percent from 2019 to 2020, losing 124,300 jobs. Goods producing jobs declined at a rate of 4.4 percent compared to 4.5 percent for private service-providing jobs. Jobs in the government sector declined by 1.2 percent. In the goods producing sector, mining, logging, and construction declined by 1,100 jobs while manufacturing decreased by 20,300 jobs.

Among the private service-providing industries, those with the largest job decreases were leisure and hospitality which lost 54,600 jobs, and education and health services which lost 13,500 jobs. Within the leisure and hospital- ity sector, accommodation and food services accounted for 46,500 of the lost jobs while health care and social assistance accounted for 9,900 of the 13,500 jobs lost in the education and health services sector. Transportation, warehousing, and utilities and professional, scientific, and technical services experienced an increase from 2019 to 2020 with a gain of 3,800 and 1,900 jobs respectively.

Since 2015, Tennessee has added 101,400 jobs, a 3.5 percent increase. Trade, transportation, and utilities led the way adding 27,200 jobs. Of those jobs, 29,200 were added in transportation, warehousing, and utilities, and 200 were added in wholesale trade. Other sectors gaining over 15,000 jobs included mining, logging, and construction; financial activities; professional and business services. Leisure and hospitality experienced a decline of 15,400 jobs from 2015 to 2020.

TN 2020 Private Sector Employment



Source: TN Department of Labor and Workforce Development, Current Employment Statistics

Tennessee Industry Employment, 2015-2020

Industry Employment (in thousands)	2015	2019	2020	19-20	19-20 %	15-20	15-20 %
Total Nonfarm	2,897.2	3,122.9	2,998.6	-124.3	-4.0%	101.4	3.5%
Goods Producing	448.1	489.8	468.4	-21.4	-4.4%	20.3	4.5%
Mining, Logging, & Construction	117.2	134.4	133.3	-1.1	-0.8%	16.1	13.7%
Manufacturing	330.9	355.4	335.1	-20.3	-5.7%	4.2	1.3%
Durable Goods Manuf.	211.2	227.5	211.3	-16.2	-7.1%	0.1	0.0%
Non Durable Goods Manufacturing	119.8	127.9	123.9	-4.0	-3.1%	4.1	3.4%
Private Service-Providing	2,024.1	2,195.4	2,097.7	-97.7	-4.5%	73.6	3.6%
Trade, Transportation, & Utilities	600.1	637.0	627.3	-9.7	-1.5%	27.2	4.5%
Wholesale Trade	117.4	121.0	117.6	-3.4	-2.8%	0.2	0.2%
Retail Trade	325.6	333.6	323.4	-10.2	-3.1%	-2.2	-0.7%
Transportation, Warehousing, & Utilities	157.1	182.5	186.3	3.8	2.1%	29.2	18.6%
Information	44.0	45.2	45.5	0.3	0.7%	1.5	3.4%
Financial Activities	150.9	172.3	171.0	-1.3	-0.8%	20.1	13.3%
Finance & Insurance	114.5	130.4	131.5	1.1	0.8%	17.0	14.8%
Real Estate, Rental & Leasing	36.4	42.0	39.5	-2.5	-6.0%	3.1	8.5%
Professional & Business Services	394.5	426.3	414.7	-11.6	-2.7%	20.2	5.1%
Professional, Scientific & Technical Services	128.7	145.6	147.5	1.9	1.3%	18.8	14.6%
Management of Companies & Enterprises	42.8	51.8	50.0	-1.8	-3.5%	7.2	16.8%
Admin, Support, Waste Mgt & Remediation Services	223.0	228.8	217.2	-11.6	-5.1%	-5.8	-2.6%
Education & Health Services	418.2	445.4	431.9	-13.5	-3.0%	13.7	3.3%
Educational Services	56.8	61.8	58.2	-3.6	-5.8%	1.4	2.5%
Health Care & Social Assistance	361.4	383.6	373.7	-9.9	-2.6%	12.3	3.4%

Leisure & Hospitality	308.0	347.2	292.6	-54.6	-15.7%	-15.4	-5.0%
Arts, Entertainment & Recreation	34.3	42.1	34.0	-8.1	-19.2%	-0.3	-0.9%
Accommodation & Food Services	273.7	305.1	258.6	-46.5	-15.2%	-15.1	-5.5%
Other Services	107.8	121.7	117.0	-4.7	-3.9%	9.2	8.5%
Government	425.1	437.6	432.5	-5.1	-1.2%	7.4	1.7%
Federal Government	49.1	50.1	51.9	1.8	3.6%	2.8	5.7%
State Government	96.5	96.8	95.5	-1.3	-1.3%	-1.0	-1.0%
Local Government	279.4	290.7	285.1	-5.6	-1.9%	5.7	2.0%

Source: TN Department of Labor & Workforce Development, Current Employment Statistics

Short Term Trends in the Tennessee Economy 2020 to June 2021

After Tennessee's unemployment rate reached 15 percent in April 2020 when the COVID-19 pandemic was first raging, a slow recovery began. From May 2019 to May 2020 more than 250,000 jobs were lost in Tennessee. However, from May 2020 to May 2021, 226,900 jobs were added, restoring employment close to pre-pandemic levels.

Table 1 displays the industries which have gained the most employment since May 2020. Last year, nearly four times as many jobs were lost in the service-providing industries as in the goods-producing sector. Over the year Jobgains from May 2020 to May 2021 responded likewise, with service-providing industries having job gains four times as great (181,000) as the goods-producing sector (45,600). Notably, job gains of 57,200 in leisure and hospitality were trending toward 2019 annual average employment but have not reached employment levels of 2019 as the pandemic continues.

In May 2021 manufacturing was only about 10,000 below its annual average employment for 2019 of 355.4 thousand. After having lost tens of thousands of jobs in 2020, transportation equipment manufacturing was only about 5,000 below its employment level of 75,300 in May 2019. Other industries rebounding to previous levels (May 2019) included administrative and support and waste management and health services, especially ambulatory care. Local government education in May 2021 was within 5,000 of its May 2019 employment.

The industry experiencing a smaller employment recovery is retail trade, especially with the expansion of e-commerce during the pandemic. Its May 2019 the employment level was 339.7 thousand; in May 2021 at 329.5. National projections expect retail trade to continue to decline even after the pandemic is under control due to changes in consumers' spending habits and more individuals working at home.

Table 1: TN Industries Gaining the Most Employment May 2020-May 2021

Industry Title	May 2021	April 2021	May 2020	May 2021 - April 2021 Empl. Chg.	May 2021 - May 2020 Empl. Chg.
Total Nonfarm	3,067,800	3,049,800	2,840,900	18,000	226,900
Goods Producing	478,200	476,100	432,600	2,100	45,600
Manufacturing	345,400	344,100	299,500	1,300	45,900
Transportation Equipment Manufacturing	70,100	69,300	43,500	800	26,600
Plastics and Rubber Products Manufacturing	23,500	23,800	19,400	-300	4,100
Service-Providing	2,589,600	2,573,700	2,408,300	15,900	181,300
Wholesale Trade	118,600	119,000	116,000	-400	2,600
Retail Trade	329,500	325,600	308,700	3,900	20,800
Transportation, Warehousing, and Utilities	193,200	192,900	177,100	300	16,100
Transportation and Warehousing	189,500	189,200	173,500	300	16,000
Professional and Business Services	437,000	431,100	389,300	5,900	47,700
Administrative and Support and Waste Management	228,100	224,100	198,100	4,000	30,000
Educational and Health Services	427,300	430,600	418,500	-3,300	8,800
Ambulatory Health Care Services	155,300	156,100	146,400	-800	8,900
Hospitals	108,500	108,800	106,100	-300	2,400
Leisure and Hospitality	310,400	300,900	253,200	9,500	57,200
Accommodation	31,300	29,900	21,500	1,400	9,800
Food Services and Drinking Places	240,400	236,300	204,200	4,100	36,200
Government	433,800	438,300	425,600	-4,500	8,200
Local Government Educational Services	143,300	143,700	138,700	-400	4,600
Local Government, Excluding Education	146,200	145,100	143,400	1,100	2,800

Source: TN Dept of Labor and Workforce Development, WIR²ED Division, Current Employment Statistics May 2021



Tennessee Long Term Outlook to 2028

From a base of 3.3 million jobs in 2018, total employment for Tennessee, including agricultural, self-employed, and private household workers, is expected to grow to 3.5 million by 2028. Expected to increase by 0.7 percent annually, Tennessee's economy in the long run is expected to continue expansion in nine of twelve major industry sectors.

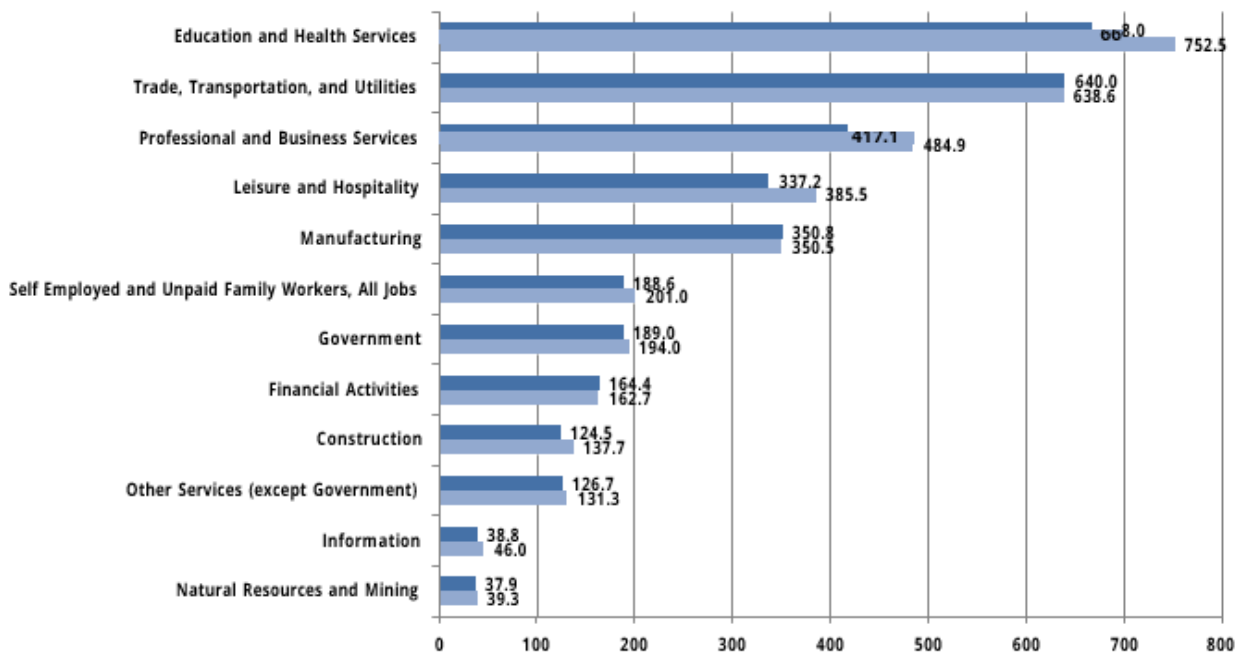
The goods-producing industries are expected to expand by 2.8 percent and create an estimated 14,000 jobs. Construction is forecast to be the most rapidly growing sector at 1.52 percent annually, faster than the overall growth in the economy. However, manufacturing employment is expected to decline slightly. Natural resources and mining, which includes agriculture, is expected to gain a little less than 1,400 jobs.

The service-providing sector is expected to grow more rapidly than the goods-producing sector, at about eight percent annually. Growth will increase in information and leisure and hospitality; professional and business services are expected to increase more than 67,000 jobs alone. Continued losses in the financial sector are forecast due to employment reductions and continued technological expansion.

The service-providing industries expected to have the largest employment growth are education and health services, professional and business services, and leisure and hospitality, forecast to add a total of 200,000 jobs by 2028. As the retail and wholesale sector respond to short term loss of business and electronic sales, these sectors are expected to remain flat. Government will experience growth over this period of 2.6 percent as services expand.

With the expansion of e-commerce and changes in work organization, the number of self-employed and unpaid family workers is expected to grow at a slightly lower rate than the average for all employment (0.6 percent annually).

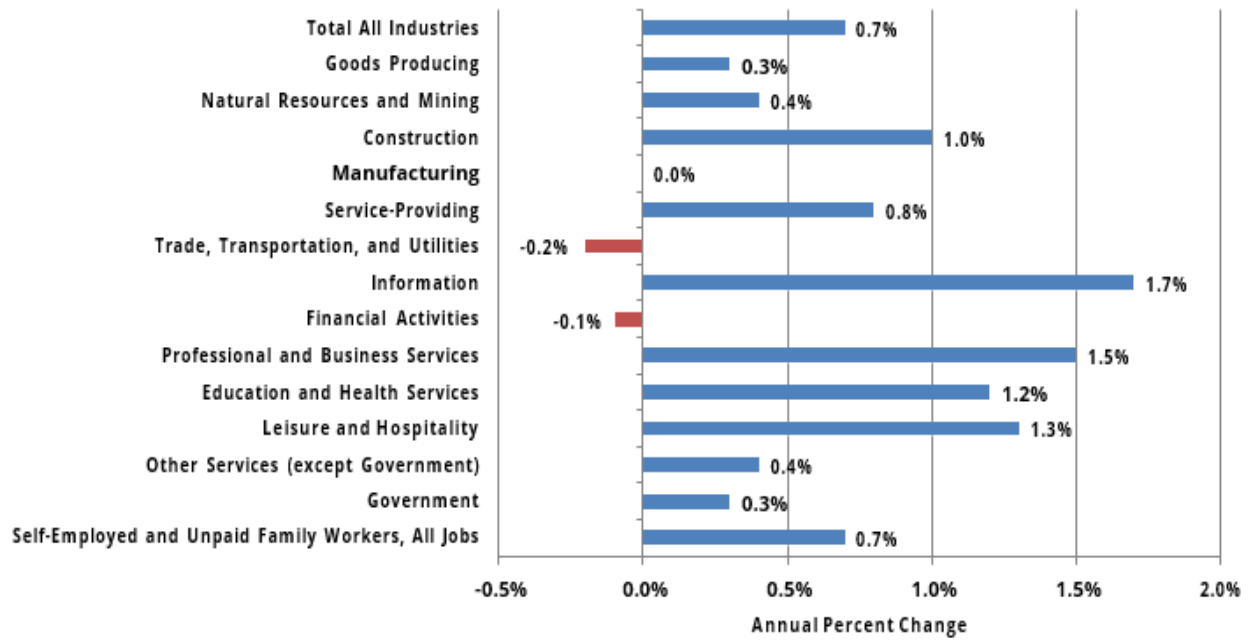
During 2020-2021 Manufacturing Shows Slight Growth
Major Industry Sector Employment, 2018-2028



Note: Numbers reported are in the thousands

Source: TN Department of Labor and Workforce Development, WIR²ED Division, TN Long Term Industry Projections, 2018-2028

Tennessee Major Industry Sector Employment, Annual Percent Change 2018-2028



Source: TN Department of Labor and Workforce Development, WIR²ED Division, TN Long Term Industry Projections, 2018-2028

The most rapidly growing occupational groups are listed in the following table. Two are in the education and health services industry- healthcare support and healthcare practitioners and technical occupations. These are two of the occupational groups which in the long term are expected to grow twice as rapidly as the average for all occupations. Other rapidly- growing groups are expected to be personal care and service; life, physical, and social science; and computer and mathematical occupations. Of the top five major groups, two (healthcare support and personal care) have median wages that are below the median for all occupations.

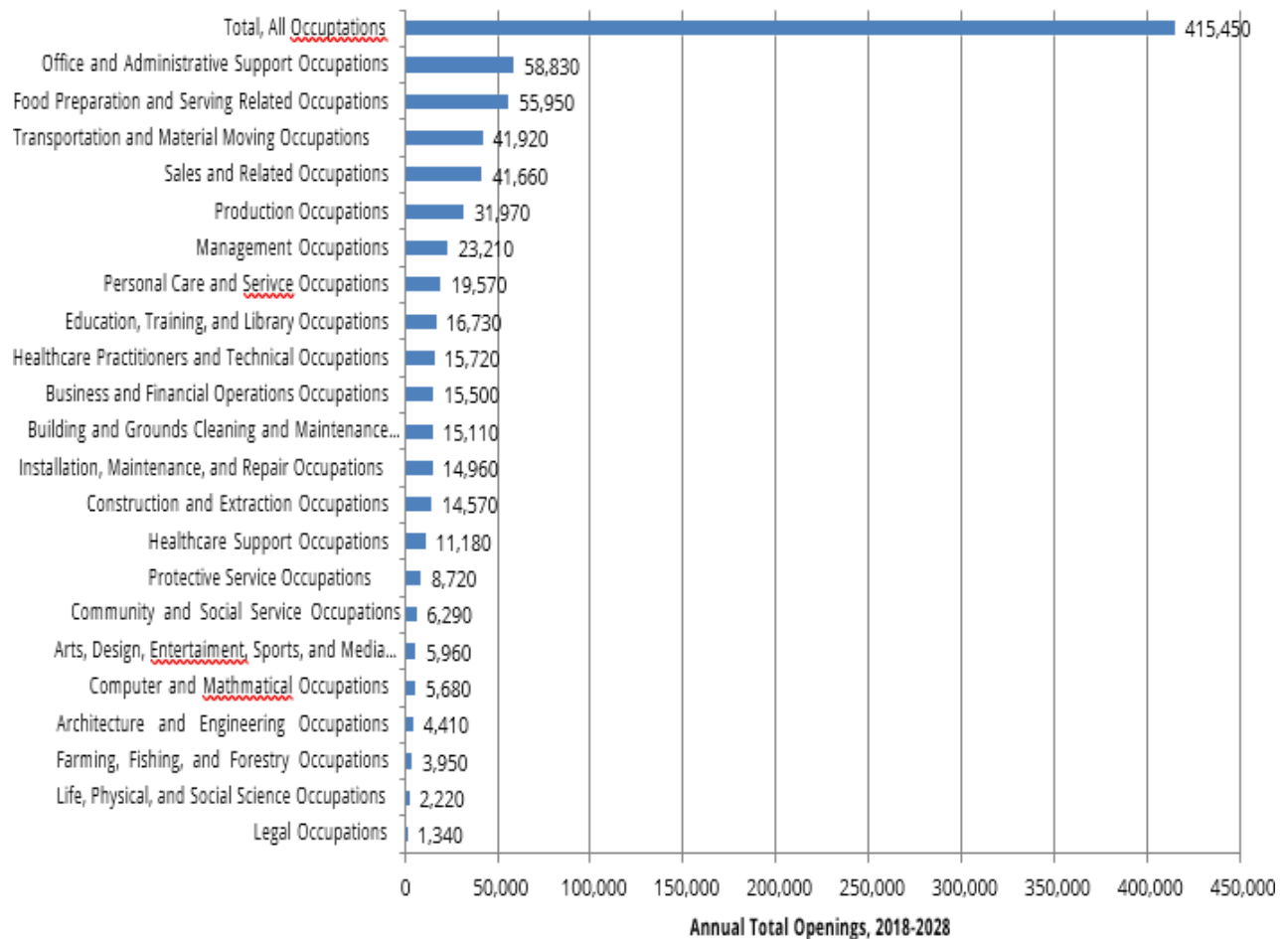
Table 2: TN Major Occupations Employment Statistics 2018-2028

Major Occupation Title	2018 Estimated Employment	2028 Estimated Employment	Total 2018-2028 Employment Change	2018-2028 Annual Avg. Percent Change	Median Wage 2020
Total All	3,283,030	3,524,030	241,000	0.71%	\$35,909
Personal Care and Service	106,390	126,260	19,880	1.87%	\$23,775
Health Support	78,050	92,100	14,060	1.80%	\$27,388
Computer and Mathematical	60,140	69,340	9,200	1.53%	\$72,471

Healthcare Practitioners and Technical	205,040	234,700	29,660	1.45%	\$57,956
Food Preparation and Serving Related	281,290	319,710	38,420	1.37%	\$20,379
Community and Social Services	50,605	56,760	6,150	1.22%	\$42,980
Architecture and Engineering	46,280	51,360	5,080	1.10%	\$73,013
Protective Services	71,240	79,030	7,790	1.09%	\$37,439
Management	233,290	258,350	25,060	1.07%	\$89,000
Transportation and Material Moving	292,780	323,830	31,050	1.06%	\$32,152
Life, Physical, and Social Science	19,572	21,606	2,034	1.04%	\$62,183
Construction and Extraction	114,290	126,080	11,790	1.03%	\$40,525
Business and Financial Operations	142,315	155,947	13,632	0.96%	\$60,052
Installation, Maintenance, and Repair	135,140	146,630	11,490	0.85%	\$44,636
Building and Grounds Cleaning and Maintenance	104,810	113,660	8,850	0.84%	\$25,521
Legal	17,150	18,490	1,340	0.78%	\$69,063
Arts, Design, Entertainment, Sports, andMedia	48,400	51,730	3,340	0.69%	\$45,113
Education, Training, and Library	171,270	182,910	11,640	0.68%	\$48,052
Farming, Fishing, and Forestry	23,820	24,430	610	0.26%	\$29,500
Office and Administrative Support	495,330	497,410	2,090	0.04%	\$35,947
Production	274,600	274,570	-30	0.00%	\$35,706
Sales and Related	311,230	299,100	-12,140	-0.39%	\$28,433

Source: TN Department of Labor and Workforce Development, WIR²ED Division, TN Long Term Industry Projections, 2018-2028

TN Occupational Groups by Annual Total Openings, 2018-2028



Source: TN Dept of Labor & Workforce Development, WIR²ED Division, TN Employment Projections 2018-2028

The total number of job openings annually due to growth, transfers, and exits is forecast to be 415, 450, with more than 90 percent of the jobs created by transfers and exits. The five occupational groups with the largest number of openings are forecast to be:

- Office and administrative support
- Food preparation and serving
- Transportation and material moving
- Sales and related
- Production

Jobs in these categories are some of those most affected by the current pandemic. More than 31,970 openings

are expected in production occupations. In 2019, those jobs paid close to the median wage for all occupations. The smallest number of openings are expected in legal occupations. Some of the production occupations with the most openings will be assemblers and fabricators, metal workers and plastic workers, food processing workers, production supervisors, inspectors and testers, and welders.

West Region Targeted Industries and Occupations

Total employment in the West Region in 2018 including self-employed and agricultural workers was 770, 250, projected to increase to 813,650 by 2028, for an annual growth rate of 0.55 percent. From 2018 to 2028, a total of 949,460 jobs are forecast to be created- 43,400 new jobs and 906,060 from exits and transfers out of occupations. Current and projected employment by industry sector is displayed in the table below.

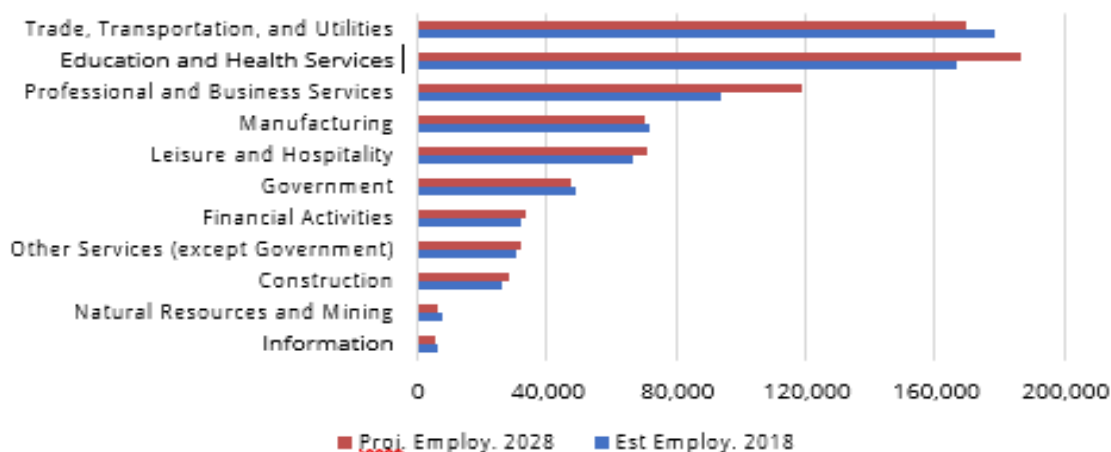
The largest sectors are trade, transportation, and utilities and education and health services. Trade, transportation, and utilities employed nearly 179,000 workers in 2018.

Table 3: Trade, Transportation, and Utilities is the Largest Employment Sector

Industry Sector Title	Est. Employ.	Proj. Employ.	West Location Quotient	Median Annual Wage(s)
	2018	2028		
Information	5,950	5,290	0.65	47,788
Natural Resources and Mining	7,920	6,380	0.89	36,786
Construction	26,210	28,330	0.90	42,845
Other Services (except Government)	30,770	32,040	1.03	35,555
Financial Activities	31,670	33,620	0.82	42,056
Government	48,760	47,610	1.10	47,475
Leisure and Hospitality	66,450	71,250	0.84	20,262
Manufacturing	71,390	70,560	0.87	40,017
Professional and Business Services	94,050	119,110	0.96	33,711
Education and Health Services	166,750	186,250	1.06	43,555
Trade, Transportation, and Utilities	178,660	169,930	1.19	34,658

Source: TN Dept of Labor and Workforce Development, WIR²ED, West Region Long Term Projections 2018-2028

Trade, Transportation, and Utilities is the Largest Employment Sector



Source: TN Dept of Labor and Workforce Development, WIR²ED, West Region Long Term Projections 2018-2028

As e-commerce continues to grow beyond the pandemic, both wholesale and retail trade will experience declining employment. However, the same trend will cause transportation and warehousing to grow and create new jobs. The second largest sector, education and health services, is expected to create nearly 20,000 new jobs, and reach total employment of more than 186,000. The most rapidly growing sector is expected to be professional and business services.

Manufacturing is expected to decline slightly. A loss of jobs in government will be due to a decline of about 1,400 jobs in the federal government and about 100 in state government, but local government jobs (excluding education and health services) are expected to increase.

Industry Specialization: Industry location quotients compare the percent of a sector's employment to total employment in the region to the state's percent of total employment in that sector. Location quotients greater than one indicate sector specialization in the region. As can be seen in the above table, the sectors with the highest location quotients are trade, transportation, and utilities (1.19), government (1.10), and education and health services (1.06). The Greater Memphis area is rich in water, air freight, trucking, and related transportation resources.

Industries with High Location Quotients

The transportation, trade, and utilities sector is the largest employment sector in the West Region and also the sector with the highest location quotient. Detailed industries in this sector with the largest employment and expected positive growth rates are listed below.

Table 4: Couriers and Messengers has the Highest Employment and Location Quotient in TTU

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
492000	Couriers and Messengers	28,560	32,420	1.28	2.97
423000	Merchant Wholesalers, Durable Goods	19,160	19,510	0.18	1.17
484000	Truck Transportation	15,920	16,220	0.19	1.17
493000	Warehousing and Storage	9,470	11,680	2.13	1.10
444000	Building Material and Garden Equipment and Supplies Dealers	5,390	5,670	0.51	0.77
488000	Support Activities for Transportation	5,020	5,130	0.22	1.51
485000	Transit and Ground Passenger Transportation	2,520	3,050	1.91	1.50
425000	Wholesale Electronic Markets and Agents and Brokers	1,560	2,070	2.89	0.87

Source: TN Dept of Labor and Workforce Development, WIR²ED, West Region Long Term Projections 2018-2028

Appendix A, West Region lists occupations in the transportation industry for all workers and for middle skill workers which are expected to grow the fastest and have the most jobs. Some of these jobs include:

- Heavy and tractor-trailer truck drivers
- Light truck or delivery services drivers
- Industrial truck and tractor operators
- Couriers and messengers
- Dispatchers
- Cargo and freight agents
- Sales representatives, services

The industry sector with the next highest location quotient is government. The 2018 employment and expected growth over the decade is shown below

Table 5: Local and Federal Government have High Location Quotients

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
999300	Local Government, Excluding Education and Hospitals	31,320	31,740	0.13	1.17
999100	Federal Government, Excluding Post Office	10,820	9,410	-1.39	1.27
999200	State Government, Excluding Education and Hospitals	6,620	6,460	-0.23	0.72

Source: TN Dept of Labor and Workforce Development, WIR²ED, West Region Long Term Projections 2018-2028

Jobs in government are available in almost every occupation, given the wide range of services that are provided. Local government jobs are expected to grow slightly over the decade.

Mature Industries

Table 6: Largest Education and Health Care Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
611000	Educational Services	63,110	64,940	0.29	1.04
622000	Hospitals	37,920	42,140	1.06	1.18
621000	Ambulatory Health Care Services	35,370	42,640	1.89	0.98
623000	Nursing and Residential Care Facilities	17,450	20,560	1.65	1.12
624000	Social Assistance	12,900	15,980	2.16	1.05

Source: TN Dept of Labor and Workforce Development, WIR²ED, West Region Long Term Projections 2018-2028

Education and Health Services is the second largest employment sector in the West Region and is expected to add jobs over the decade. The region shows specialization in the hospital and nursing and residential care facilities sectors. Appendix A has additional information about fast growing jobs and those with the most openings in this sector. Occupations with the most expected openings include:

- Registered nurses
- LPNs
- Clinical laboratory technologists and technicians

Middle skill jobs with the most openings also include:

- Emergency medical technicians
- Medical records and health information technicians
- Respiratory therapists

and a variety of clerical jobs including insurance claims clerks and medical secretaries. Growing educational jobs with the most openings include health specialties teachers, postsecondary and preschool teachers. Middle skill occupations include teacher assistants and substitute teachers.

Table 7: Fastest Growing Sector - Professional and Business Services

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
561300	Employment Services	28,780	41,490	3.73	1.25
541300	Architecture, Engineering, and Related Services	3,400	4,840	3.59	0.68
561600	Investigation and Security Services	8,300	11,550	3.36	1.57
541600	Management, Scientific, and Technical Consulting Services	7,040	8,930	2.41	0.96
541800	Advertising, Public Relations, and Related Services	1,590	2,000	2.34	0.95
541500	Computer Systems Design and Related Services	2,910	3,670	2.33	0.60
561100	Office Administrative Services	1,700	2,120	2.27	0.65
541200	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	2,580	3,220	2.26	0.46
561700	Services to Buildings and Dwellings	9,810	11,450	1.56	0.96
561200	Facilities Support Services	1,590	1,790	1.23	1.17

Source: TN Dept of Labor and Workforce Development, WIR'ED, West Region Long Term Projections 2018-2028

This is the most rapidly growing sector in the West Region. The industries employing more than 1,000 workers and expected to grow through 2028 are listed above. Many of these are considered AE industries. Jobs related to those industries are listed earlier in this section.

Appendix A1 to A3 in the *2020-2021 Reference Guide- Tennessee's Economy* (online) list West Region top occupations, with projected employment, growth rates, annual total openings, education levels, highlighting those with the most openings, including middle skill occupations.

Middle Region Targeted Industries and Occupations

The Middle Region is the most rapidly growing region in the state and is expected to continue that trend, with employment growing at an annual rate of 1.07 percent. Total employment in the Middle Region in 2018 was 1,349,880 in 2018 and is projected to increase to 1,502,140 employment by 2028. Job openings will result from new job growth of 152,270 plus 1,634, 060 job openings created from workers exiting the labor market or transferring into other jobs.

The table below displays base year 2018 employment and projected employment by industry sector in 2028.

Table 8: Education and Health Services is the Largest Employment Sector

Industry Sector Title	Est. Employ.	Proj. Employ.	Middle LQ	Median Annual Wages \$
	2018	2028		
Natural Resources and Mining	22,870	19,970	1.46	39,424
Information	24,400	28,410	1.53	56,320
Construction	53,360	61,850	1.04	42,986
Other Services (except Government)	53,780	57,860	1.03	33,322
Financial Activities	69,010	74,860	1.02	48,789
Government	78,750	82,640	1.01	47,172
Manufacturing	131,300	133,100	0.91	39,415
Leisure and Hospitality	143,760	168,200	1.04	21,346
Professional and Business Services	180,200	217,900	1.05	45,875
Trade, Transportation, and Utilities	241,310	256,200	0.92	33,268
Education and Health Services	268,400	312,110	0.98	44,502

Source: TDLWD, WIR²ED, Middle Region Long Term Projections 2018-2028, and TN Middle Region OEWS 2020.

Education, Health Services Largest Sector

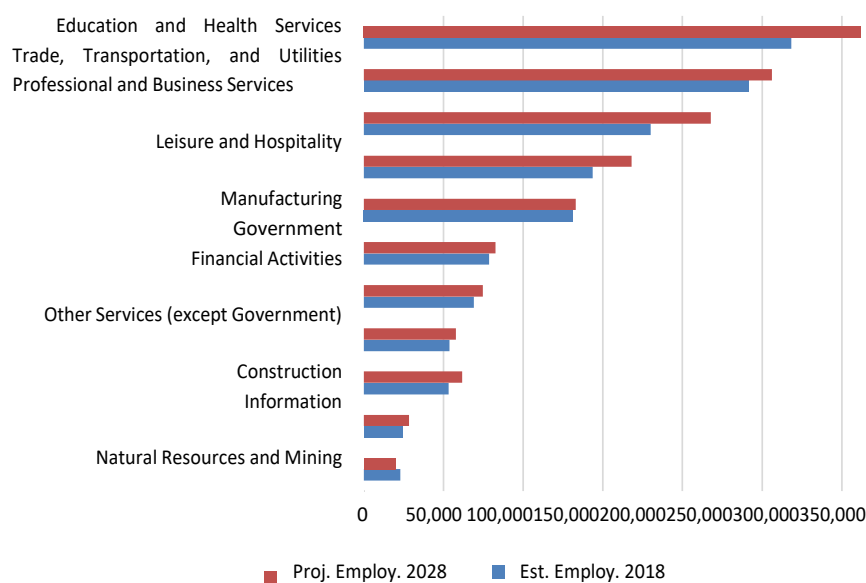


Figure 22

Source: TDLWD, WIR²ED, Middle Region Long Term Projections 2018-2028, and TN Middle Region OEWS 2020.

The largest industry sectors are education and health services, expected to employ more than 310,000 people by 2028; trade, transportation, and utilities, forecast to employ 256,200; and professional and business services, with nearly 220,000 jobs projected. All three are expected to grow over the decade. The three sectors expected to grow the most rapidly include professional and business services (1.9 percent annually); leisure and hospitality (1.6 percent); and information (1.5 percent). Only natural resources and mining (which includes agriculture) is expected to decline.

Industry Specialization: Industry location quotients compare the percent of a sector's employment to total employment in the region to the state's percent of that sector's employment. Location quotients greater than one show industry specialization in the region. As shown in table 37, the industry sectors with the largest location quotients in the Middle Region are information (1.53) and natural resources and mining (1.46). As a growing metropolitan area, the region has a diverse economy with a balance of employment across many industry sectors, many of which are local serving. Professional and business services, construction, and leisure and hospitality all have location quotients greater than one, with professional and business services slightly larger.

Industries with High Location Quotients

Information

The information sector has the highest location quotient in the Middle Region (1.53), indicating specialization in this sector. The top industries in the sector employing more than 1,000 employees and expected to have positive growth rates in the next decade are listed below, with the most rapidly growing industry expected to be data processing and hosting.

Table 9: AE Information Sector Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
512000	Motion Picture and Sound Recording Industries	7,620	8,200	0.73	1.70
511000	Publishing Industries (except Internet)	5,330	7,320	3.21	1.43
518000	Data Processing, Hosting and Related Services	3,980	5,870	3.96	1.67
515000	Broadcasting (except Internet)	2,120	2,520	1.75	0.94

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

The number of annual average job openings in key occupations related to the information sector, along with their usual educational requirements, are listed in Appendix A. Top fast-growing information technology occupations include

- Computer user support specialists
- Software developers for applications and systems software
- Operations research analysts
- Information security analysts

Top middle skill occupations expected to grow most rapidly include computer user support specialists, computer network support specialists, and web developers.

The information sector also includes occupations in the arts, entertainment, and media. Occupations expected to have the most openings include editors, public relations specialists and producers and directors. A middle skill occupation with higher numbers of openings will be audio and video equipment technicians.

Natural Resources and Mining

Included in this sector are mining, other natural resources, and agricultural industries. with estimated employment of nearly 23,000 in 2018. However, all industries, including animal and crop production and mining, are expected to decline by 2028. The only industry expected to grow is support activities for agriculture and forestry, with a projection of 2,770 employment in 2028.

Mature Industry Sectors

The largest industry sectors in Middle Tennessee in terms of employment are Education and Health Services and Trade, Transportation, and Utilities.

Education and Health Services

These industries are the human capital cluster, acting to improve and maintain the learning capabilities and health status of the population. Education and Health Services is the largest employment sector in the Middle Region. The industries in Education Services include local and state public and private educational facilities at the preschool, elementary and secondary, and postsecondary levels. With just over 100,000 employment in 2018, it is expected to grow at about the same rate as employment in the Middle Region.

Table 10: Education and Health Services Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
611000	Educational Services	104,230	115,510	1.03	0.98
621000	Ambulatory Health Care Services	62,400	79,320	2.43	0.98
622000	Hospitals	55,800	59,580	0.66	0.99
62300	Nursing and Residential Care Facilities	25,520	29,460	1.44	0.94
624000	Social Assistance	20,460	28,250	3.28	0.95

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

In the Middle as in the East Region, the number of employees working in ambulatory care settings such as doctors' offices and clinics outnumber those working in hospitals, and ambulatory care settings are expected to grow in employment nearly four times faster than hospitals. This should still be the case even with telemedicine expanding. As more individuals receive home and community-based care, growth will be greater in residential care facilities than nursing homes, which are seeing employment decreases.

The top fastest growing middle skill health practitioner and technical occupations include:

- Ophthalmic medical technicians
- Diagnostic medical sonographers
- Respiratory therapists
- Dental hygienists
- Veterinary technologists and technicians

The most openings for middle skill occupations are expected to be for registered nurses, LPNs, pharmacy technicians, emergency medical technicians, and dental hygienists. Fast-growing clerical occupations include medical secretaries, insurance claims clerks, and bill and account collectors. For additional detail, see Appendix A.

In educational services, the most rapidly growing occupations include preschool and self-enrichment education teachers (middle skill) as well as postsecondary business school and health specialties teachers and nursing instructors. Other needed middle skill occupations include teacher assistants and library technicians.

Trade, Transportation, and Utilities

This sector is the second largest in the Middle Region. As the region grows and consumer demand increases, particularly with online purchases, distribution facilities are expanding to meet the needs.

Warehousing and storage employment is expected to grow by nearly 10,000, and now has a location quotient showing specialization in the Middle Region. Both that industry and couriers and messengers are growing at four times the average growth rate for the region. Other fast-growing industries provide essential services, including food and beverage stores, health and personal care stores, and building materials for the many construction projects in the area.

Table 11: Trade, Transportation, and Utilities Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
423000	Merchant Wholesalers, Durable Goods	26,560	28,080	0.56	0.93
441000	Motor Vehicle and Parts Dealers	19,400	21,200	0.89	0.99
445000	Food and Beverage Stores	19,340	22,000	1.30	0.86
484000	Truck Transportation	19,260	19,490	0.12	0.81
493000	Warehousing and Storage	17,580	27,440	4.55	1.16
424000	Merchant Wholesalers, Nondurable Goods	14,350	14,500	0.11	0.82
444000	Building Material and Garden Equipment and Supplies Dealers	12,930	14,810	1.37	1.05
446000	Health and Personal Care Stores	9,150	10,980	1.84	0.94
447000	Gasoline Stations	8,740	9,590	0.93	0.92
492000	Couriers and Messengers	7,840	11,900	4.27	0.46

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Large and fast-growing transportation occupations are primarily middle skill, including

- Heavy and tractor-trailer truck drivers
- Light truck/delivery services drivers (projected 23 percent employment increase)
- Transportation supervisors and
- School bus drivers.

There is also increased demand for water vessel pilots.

Other middle skill occupations in the transportation sector involve clerical and recordkeeping and sales abilities. These include shipping, receiving, and traffic clerks and dispatchers, excluding fire, police, and ambulance. Fast-growing middle skill occupations in the sales area include:

- Sales representatives, services
- Sales representatives, wholesale and manufacturing, non-technical

Although the occupation of retail sales supervisors is declining, it remains the sales occupation with the most openings expected in this sector. For further information on these occupations, see Appendix A.

Fastest Growing Industry Sector- Professional and Business Services

This sector is forecast to grow at the annual rate of 1.92 percent from 2018-28, surpassing all other Middle Region industry sectors. Below are the prominent industries within this sector with more than 1000 employment and positive growth rates. All are growing more rapidly than average for the Middle Region.

Jobs in professional, scientific, and technical services in Alternative Energy were listed in an earlier table.

Table 12: Professional, Scientific, and Technical Services Industry Growing the Most Rapidly

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	MiddleLQ
561000	Administrative and Support Services	86,200	97,150	1.20	0.97
541000	Professional, Scientific, and Technical Services	68,720	89,830	2.71	1.19
551000	Management of Companies and Enterprises	22,940	28,310	2.13	1.11
562000	Waste Management and Remediation Service	2,340	2,610	1.09	0.63

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

The professional and business services industries contain a wide variety of occupations- high level management occupations in the management of companies and enterprises industry (business headquarters), employment recruiters in the employer services industry, clerical and production workers in the temporary help industries, buildings and grounds workers in facilities management, and accountants and lawyers in professional services.

In the business and financial occupations category, some of the fastest-growing occupations include market research analysts and training and development specialists. Occupations with the most openings include accountants and auditors and human resource specialists. Middle skill occupations with significant numbers of openings include tax preparers.

For further information on Middle Region occupations, consult the Appendix A, Middle Region Section, and jobs4tn.gov, labor market information, occupation profiles. Appendix A4 to A6 in the *2020-2021 Reference Guide- Tennessee's Economy* (online) list Middle Region top occupations, with projected employment, growth rates, annual total openings, and education levels, highlighting those with the most openings, including middle skill occupations.

East Region Targeted Industries and Occupations

Total employment in the East Region in 2018 was 1,097,460. It was projected to increase to 1,184,240 by 2028, for an annual growth rate of .76 percent. Over the decade, a total of 1,409,740 jobs were expected to be created; 86,780 new jobs and 1,322,960 from transfers and exits from occupations.

Current and projected employment by industry sector is displayed in the table below.

Table 13: Education and Health Services is the Largest Employment Sector

Industry Sector Title	Est. Employ. 2018	Proj. Employ. 2028	East Location Quotient	Median Annual Wage(s)
Information	11,964	11,670	0.92	43,876
Natural Resources and Mining	14,144	11,985	1.11	39,649
Other Services (except Government)	40,740	42,372	0.96	31,811
Construction	42,404	47,164	1.02	41,419
Financial Activities	47,905	54,801	0.87	41,630
Government	61,678	65,102	0.98	42,076
Professional and Business Services	123,489	144,841	0.89	37,553
Leisure and Hospitality	125,194	139,748	1.11	20,373
Manufacturing	141,674	144,491	0.89	37,553
Trade, Transportation, and Utilities	201,372	204,809	0.94	31,001
Education and Health Services	223,881	249,947	1.00	41,024

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Education, Health Services Largest Sector

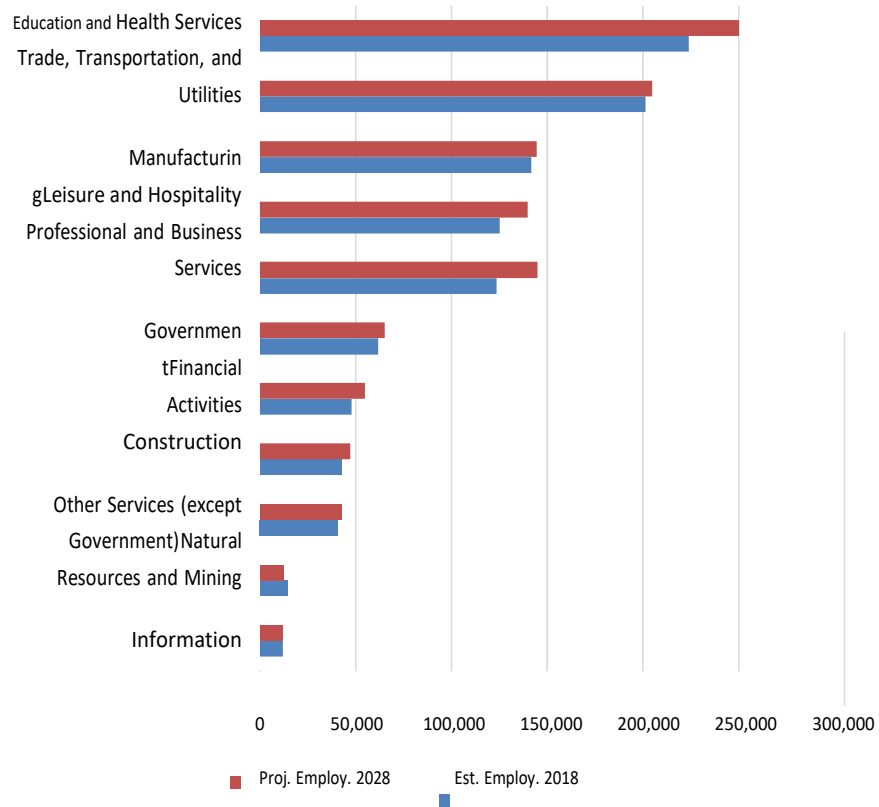


Figure 25

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

The largest sectors are education and health services, expected to employ nearly 250,000 people in 2028; trade, transportation, and utilities, expected to employ nearly 205,000, and manufacturing, with expected employment of nearly 145,000. All three sectors are expected to experience growth over the decade. The most rapidly- growing sectors are expected to be business and professional services (annual growth of 1.6 percent), financial activities (1.4percent), and education and health services (1.1 percent).

Industry Specialization: Industry location quotients compare the percent of a sector’s employment to total employment in the region to the state percent of that sector’s employment in the state. Location quotients greater than one indicate industry sector specialization in the region. As can be seen in table 56, the industry sectors with the largest location quotients in the East Region are manufacturing (1.21), natural resources and mining (1.11), and leisure and hospitality (1.11). A location quotient of 1.2 or greater identifies the sector as an export industry sector.

Mature Industry Sectors

Health Care, Education, and Social Assistance, the human capital cluster, is the largest employment sector in the East Region, with total employment of 223,880 in 2018 and an expected 249,950 employment in 2028. The largest 3-digit industries are displayed below. Only the hospital sector is expected to decrease in size but will still employ nearly 42,000 persons. Notably, ambulatory care (outpatient) services are expected to grow more than three times faster than overall employment in the region and employ more than 70,000 people by 2028.

The largest employers in educational services include local education and colleges and universities. In 623000, growth is occurring in assisted living and residential care facilities, in social assistance, in childcare, and in individual and family services. The services provided by these employers will be essential in increasing the labor force participation rate in the East Region.

Table 14: Educational and Health Services Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
611000	Educational Services	87,010	90,180	0.36	1.01
62100	Ambulatory Health Care Services	54,490	70,330	2.59	1.06
62000	Hospitals	42,970	41,990	-0.23	0.94
62300	Nursing and Residential Care Facilities	23,040	26,110	1.26	1.04
62400	Social Assistance	16,380	21,327	2.67	0.93

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Occupations in Health Services

Four of the five occupations expected to grow the most rapidly in health care/veterinary care require master’s or doctoral degrees (See Appendix Table A). The fastest- growing middle skill occupations, requiring an associate degree or less education, include dental hygienist, psychiatric technicians, ophthalmic medical technicians, and medical records and health information technicians. The five middle skill occupations expected to have the most openings, are registered nurses, emergency medical technicians, pharmacy technicians, licensed practical nurses, and medical records

and health information technicians. Due to the pandemic, in August 2021 there were a total of 5,266 job openings listed for registered nurses in the three LWDAs which make up the East Region.

Thousands of openings for middle skill workers exist in clerical occupations in the health services; some of the fastest-growing occupations include billing and posting clerks, insurance claims and policy processing clerks, medical secretaries, and receptionists. Secretaries and administrative assistants are expected to have more than 1,800 openings, with nearly 1,400 for bookkeeping and accounting clerks.

Occupations in Educational Services

Educational services include all institutions from local education agencies to four-year colleges and universities, public and private. The occupations expected to grow the most rapidly are:

- Postsecondary business teachers
- Postsecondary nursing instructors and teachers
- Criminal justice and law enforcement teachers, postsecondary
- Preschool teachers

Business administration continues to be one of the most popular majors at higher educational institutions. With the expanding need for registered nurses and related occupations, having more nursing instructors will be vital in reducing nursing shortages. In order for more women to re-enter the labor force, more preschools will need to reopen and hire teachers. Preschool teachers are also one of the top five occupations with the most openings in education services. Other occupations in the top five with the most openings in educational services include elementary, middle school, and secondary school teachers, with an expected 700, 310, and 480 annual openings, respectively. For middle school occupations, teacher assistants are expected to have 890 openings annually.

Trade, Transportation, and Utilities

This sector is the second largest employment sector in the East Region, employing 201,370 in 2018 and expected to increase slightly to 2014, 810 in 2028, below the average rate of employment growth in the East Region.

Both wholesale and retail trade are expected to decline in employment from 2018 to 2028, whereas the transportation and warehousing industries are expected to grow at a rapid pace. Only the four wholesale and retail industries listed in the table below (with more than 1,000 employment) are expected to have positive growth rates, including durable goods wholesalers (who sell automobiles) and building material and garden equipment dealers, responding to the housing and construction expansion. The most rapid growth rate is in the warehousing and storage industry, which is forecast to add nearly 6,000 new jobs over the decade. Truck transportation is also one of the fastest growing industries with a location quotient showing specialization in the East Region.

Table 15: Trade, Transportation, and Utilities Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
423000	Merchant Wholesalers, Durable Goods	19,010	19,980	0.50	0.82
425000	Wholesale Electronic Markets and Agents and Brokers	2,600	2,780	0.66	1.06
444000	Building Material and Garden Equipment and Supplies Dealers	10,830	12,010	1.03	1.09
447000	Gasoline Stations	9,490	10,380	0.90	1.21
480000	Transportation and Warehousing	47,130	59,240	2.31	0.79
484000	Truck Transportation	22,220	27,810	2.27	1.14
485000	Transit and Ground Passenger Transportation	1,930	1,940	0.03	0.82
492000	Couriers and Messengers	4,270	4,910	1.41	0.31
493000	Warehousing and Storage	9,700	15,450	4.76	0.79

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Occupations in Trade, Transportation, and Utilities

Occupations in this industry sector, all middle skill occupations, expected to have the most annual openings include:

- First-line supervisors of transportation and material moving workers
- Bus drivers, school or special client
- Driver/sales workers
- Heavy and tractor-trailer truck drivers (3,670 annual openings)

First-line supervisors of transportation and material moving workers and tractor-trailer truck drivers are among the top five fastest-growing occupations in this industry sector. Other fast-growing occupations with more than 50 annual openings include dispatchers, except police, fire, and ambulance: and reservation and transportation ticket agents and travel clerks.

Among retail and wholesale sales occupations, the number of supervisors of retail sales workers is expected to decline, but still will have the most annual openings (1,510). Other occupations among those with the most openings include wholesale and manufacturing sales representatives for technical and scientific products (400 annual openings) and sales representatives for non-technical products (610 openings).

Most Rapidly Growing Sectors

- Professional and Business Services
- Financial Activities

The professional, scientific, and technical sector is forecast to be the most rapidly growing of all the industry sectors in the East Region, increasing from 2018 employment of 123,490 to expected employment of 144,840 in 2028. The employment and growth in the professional, scientific, and technical services sector has already been discussed; most of that employment is included in the AE sector. The remaining employment in this sector is expected to top 95,000 by 2028. All industries shown below are growing faster than average; management of companies and administrative support services at twice the average rate. The largest industries in the administrative and support group include employment services, services to buildings and dwellings, and business support services.

Table 16: Professional and Business Services Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
551000	Management of Companies and Enterprises	16,230	18,670	1.41	0.97
561000	Administrative and Support Services	63,650	73,470	1.44	0.88
562000	Waste Management and Remediation Services	3,260	3,650	1.14	1.11

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Occupations in the Professional and Business Services Sector

Among the fastest-growing occupations in the professional and business services sector are

- Management analysts
- Meeting, convention, and event planners
- Market research analysts and marketing specialists
- Personal financial planners
- Tax preparers

Accountants and auditors and human resources specialists were expected to have the most annual openings. Middle skill occupations with the most openings include claims adjusters, examiners, and investigators and tax preparers.

The professional and technical sector includes a wide variety of professional services such as legal, accounting, architectural and engineering, computer design, management consulting, and research and development services; as well as management of companies, and administrative support services such as temporary help firms. Consequently, it includes significant employment in most of the occupational categories, from occupations requiring graduate degrees to those requiring less than a high school degree.

Financial Activities Sector

The second-fastest growing industry sector in the East Region is financial activities. Employment in the securities and commodities contracts industries is growing four times as fast as the average for the region. Insurance carriers and those involved in real estate also expected to grow at a pace faster than average.

Table 17: Financial Industries Growing Faster than Average

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
522000	Credit Intermediation and Related Activities	20,150	22,610	1.16	1.12
523000	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	1,610	2,140	2.89	0.47
524000	Insurance Carriers and Related Activities	15,160	17,890	1.67	0.77
531000	Real Estate	7,200	8,240	1.35	0.80

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Occupations in the Financial Activities Sector

Some of the most rapidly- growing occupations in the financial activities sector include

- Financial analysts
- Personal financial advisors
- Loan officers
- Tax preparers
- Securities, commodities, and financial services sales agents

with the most openings for accountants and auditors, financial analysts, credit counselors, loan officers, and tax preparers. Claims adjusters and tax preparers are occupations at the middle skill level. Clerical occupations growing rapidly and requiring less than a bachelor's degree include office supervisors (1,400 annual openings expected), insurance claims and policy processing clerks, and loan interviewers and clerks.

For further information on East Region occupations, consult the Appendix A, East Region Section, and jobs4tn.gov, labor market information, occupation profiles. Appendix A7 to A12 in the *2020-2021 Reference Guide- Tennessee's Economy* (online) list East Region top occupations, with projected employment, growth rates, annual total openings, and education levels, highlighting those with the most openings, including middle skill occupations.

Economic & Workforce Analysis

Economic Analysis

The Unified or Combined State Plan must include an analysis of the economic conditions and trends in the State, including sub-State regions and any specific economic areas identified by the State. This must include—

(i) Existing Demand Industry Sectors and Occupations.

(ii) Emerging Demand Industry Sectors and Occupations. Provide an analysis of the industries and occupations for which demand is emerging.

(iii) Employers' Employment Needs.

(A) Economic Analysis

(ii) Emerging Demand Industry Sectors and Occupations

What are some of the changes from COVID-19 that might affect the Tennessee economy in the longer run? An important question is whether self-employment will increase. One of the primary ways of collecting information on self-employment is the Current Population Survey which continuously surveys samples of households in the states. This survey has not shown evidence of increasing self-employment as the gig economy has been emerging. However, administrative records such as 1099 returns from the IRS has shown some growth in self-employment. ¹ Economists have suggested ways to change the questions on the CPS to better reflect different kinds of self-employment; until those questions are changed or researchers have better access to administrative data, the answer to this question will not be available.

According to current research, several trends are likely. ² If work at home increases, with the potential for new jobs closer to where people live, there may be more job growth outside of metropolitan areas. This could cause negative effects on business support services such as restaurants, hotels, cleaning, and maintenance services, hurting lower-wage workers. ³ Lower-wage workers could also be displaced if more routine, lower-skilled jobs are displaced with the faster adoption of technology. But lack of funds for investment could slow this trend.

A third potential trend could be re-shoring of manufacturing, with COVID-19 disrupting off-shore supply chains. This has reinforced trends such as higher labor and transportation costs, and issues of product safety. Industries identified as more likely to re-shore are the following, many of which are prominent in Tennessee:

- Automobile bodies and trailers;
- Other transportation equipment manufacturing;
- Navigational, measurement equipment and control instruments;
- Basic chemicals;
- Semi-conductor and electronics components manufacturing;
- Medical equipment and supplies;
- Communications equipment manufacturing; and
- Aerospace products and parts.

¹ K. Abraham, J. Haltiwanger, K. Sandusky, J. Spletzer. Measuring the gig economy: current knowledge and open issues. National Bureau of Economic Research, January 9, 2020. <https://www.nber.org/chapters/c13887>.

² Dr. Susan N. Houseman, director of research at the Upjohn Institute for Employment Research, Projections Managing Partnership Summit presentation August 20, 2020. "Measuring industry and occupations trends beyond COVID-19".

³ D. Autor and E. Reynolds. The nature of work after the COVID crisis; too few low-wage jobs. [autorReynolds_LO_Final.pdf. hamiltonproject.org](#). Downloaded September 10, 2020.

Better ways to communicate through technology and re-shoring of manufacturing could also mean less international business travel and cause the airlines to continue to have reduced employment.⁴

Emerging Industry Trends- Advanced Energy Industries Fueling Growth

A recent report⁵ by the Tennessee Advanced Energy Business Council identifies industries included in the advanced energy (AE) sector in utilities and construction; manufacturing; information; professional, scientific, and technical services; and other services. Advanced energy sectors in Tennessee were found to employ 393,756 workers in 2019, a nearly 10 percent increase since 2016, and employment growth, payroll, and the number of establishments were growing faster than the state.⁶

The report defines AE activities which include “...being directly involved with researching, developing, producing, manufacturing, distributing, selling, or implementing components, goods, or services related to alternative fuels and vehicles; energy efficiency; renewable, nuclear, and natural gas electricity generation; smart grid; and other related technologies.⁷ It also includes activities supporting AE which encompass legal services, finance, consulting, and tax services. As one example, the three major automotive manufacturers in Tennessee are producing electric vehicles, creating related electric vehicle suppliers and other related industries.

4 Federal Reserve Bank of Atlanta. Businesses anticipate slashing post pandemic travel budgets. August 4, 2020. <https://www.frbatlanta.org/blogs/macroblog/2020/08/04/businesses-anticipate-slashing-postpandemic-travel-budgets> Downloaded September 10, 2020.

5 Tennessee Advanced Energy Business Council. *Tennessee Advanced Energy Economic Impact Report*. Knoxville:Howard Baker Jr. Center for Public Policy at the University of Tennessee, August 2021.

6 Ibid, p. 7.

7 Ibid, p. 8.

West Region Emerging Industries- Advanced Energy

Using AE industry codes identified in the report, the tables below list the largest detailed industries with positive growth in the five major industry sectors included in advanced energy and their 2018 and projected 2028 employment, location quotients, and expected annual growth rates. Some industries may be excluded due to confidentiality.

Advanced Energy- Manufacturing

Table 18: Medical Equipment and Supplies Lead in AE Manufacturing Growth

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
339100	Medical Equipment and Supplies Manufacturing	6,700	8,090	1.91	2.81
336300	Motor Vehicle Parts Manufacturing	4,060	3,550	-1.33	0.38
335300	Electrical Equipment Manufacturing	2,430	2,680	0.97	2.13
324100	Petroleum and Coal Products Manufacturing	940	910	-0.32	4.00
339900	Other Miscellaneous Manufacturing	770	900	1.56	0.48
333300	Commercial and Service Industry Machinery Manufacturing	600	780	2.62	1.33

Source: TN Dept of Labor and Workforce Development, WIR²ED Division, West Region Long Term Projections 2018-2028

¹ Tennessee Advanced Energy Business Council. *Tennessee Advanced Energy Economic Impact Report*. Knoxville:Howard Baker Jr. Center for Public Policy at the University of Tennessee, August 2021.

² Ibid, p. 7.

³ Ibid, p. 8.

Medical equipment and supplies manufacturing has a high location quotient, is an export industry, and is expected to add the most manufacturing jobs in AE. Electrical equipment manufacturing also has a higher location quotient and is expected to have job gains.

Advanced Energy- Utility and Construction

Table 19: Five AE Construction Sectors with Growth

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	West LQ
238200	Building Equipment Contractors	10,300	11,820	1.02
238100	Foundation, Structure, and Building Exterior Contractors	3,130	3,290	0.85
236200	Nonresidential Building Construction	2,510	2,560	0.75
238300	Building Finishing Contractors	2,360	2,250	0.91
236100	Residential Building Construction	2,170	2,350	0.74
237100	Utility System Construction	1,320	1,370	0.74

Source: TDLWD, WIR²ED, West Region Long Term Projections 2018-2028

The construction sector in the West Region is expected to add about 2,000 new jobs over the decade, partially fueled by growth in several of the AE construction sectors, which are using new materials and construction techniques.

Advanced Energy- Professional, Scientific, and Technical Services

Table 20: Management Consulting will Add the Most New Jobs

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Emplo y.2028	Annual Growth Rate	West LQ
541600	Management, Scientific, and Technical Consulting Services	7,040	8,930	2.41	0.96
541300	Architectural, Engineering, and Related Services	3,400	4,840	3.59	0.68
541500	Computer Systems Design and Related Services	2,910	3,670	2.33	0.60
541900	Other Professional, Scientific, and Technical Services	2,180	2,480	1.31	0.72
541700	Scientific Research and Development Services	600	810	3.09	0.32

As the pace of technology and business competitiveness increases, technical and consulting services for computersystems design, business strategies, and new engineering solutions will be sought.

Advanced Energy- Other Services

Table 21: Medical and Technological Diagnostic Services Needed

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
621500	Medical and Diagnostic Laboratories	1,400	1,710	2.01	0.82
811200	Electronic and Precision Equipment Repair and Maintenance	940	1,010	0.73	1.33
811300	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	940	1,060	1.18	0.92

Source: TDLWD, WIR²ED, West Region Long Term Projections 2018-2028

The increased use of automation in business will require more sophisticated maintenance services.

Advanced Energy- Information

Table 22: Industry Sector Growth

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	West LQ
511200	Software Publishers	370	440	1.57	0.50
519100	Other Information Services	270	190	-3.46	1.33

Source: TDLWD, WIR²ED, West Region Long Term Projections 2018-2028

Some growth is expected in information services, but this region does not have specialization in these industries.

The table below summarizes the number of new jobs projected for the decade ending in 2028 for the most prominent occupations in the AE industries. Additional jobs will be created in these occupations due to separations in 2018-2018.

Table 23: West Region Advanced Energy Top Occupations

West Region - Most New Jobs in the Advanced Energy Industries	Estimated New Jobs 2018-28
Advanced Energy Manufacturing	
Industrial Engineers	80
First-Line Supervisors of Production and Operating Workers	50
Welders, Cutters, Solderers, and Brazers	30
Advanced Energy - Professional, Scientific, and Technical Services	
Laborers and Freight, Stock, and Material Movers, Hand	350
Customer Service Representatives	150
Computer Systems Analysts	130
Veterinary Assistants and Laboratory Animal Caretakers	120
Civil Engineers	110
Market Research Analysts and Marketing Specialists	100
Architects, Except Landscape and Naval	90
Management Analysts	90
Veterinary Technologists and Technicians	60
Veterinarians	60
Advanced Energy - Utilities and Construction	
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	280
Construction Laborers	130
Sheet Metal Workers	60
Helpers--Electricians	50
Roofers	40
Construction Managers	30
Advanced Energy - Other Services	
Clinical Laboratory Technologists and Technicians	110
Industrial Machinery Mechanics	50

Phlebotomists	80
Office and Administrative Support Occupations	40
Advanced Energy - Information Technology	
Computer and Mathematical Occupations	110
Management Occupations	60

Source: TDLWD, WIR²ED, West Region Long Term Projections 2018-2028

Middle Region Emerging Industries- Advanced Energy

Emerging Industry Trends- Advanced Energy Industries Fueling Growth

The tables below list the largest detailed industries with positive growth in the five major industry sectors included in advanced energy and their 2018 and projected 2028 employment, location quotients, and expected annual growth rates. Some industries may be excluded due to confidentiality.

Advanced Energy- Information Industries

The information sector has the highest location quotient in the Middle Region. The information industries below also have high location quotients in the Middle Region and expected growth rates much higher than the average for all industries in the region. Starting at 6,510 employments in 2018, the industry sector is forecast to reach 11,790 by 2028.

Table 24: Data Processing Largest AE Information Industry

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
511200	Software Publishers	2,020	5,030	9.54	1.50
518200	Data Processing, Hosting, and Related Services	3,980	5,870	3.96	1.67
519100	Other Information Services	480	870	6.21	1.33

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Advanced Energy- Manufacturing Industries

The manufacturing industries listed below are the largest in AE employment in the Middle Region with positive growth rates expected. The growth rate for motor vehicle parts is expected to slow as electric vehicle production increases as they use fewer parts than gasoline engine vehicles. Total manufacturing employment in AE in the Middle Region was 62,590 in 2018 and expected to increase to 63,450 in 2028. Some AE manufacturing industries are expected to decline through 2028.

Table 25: Slow Growth in Motor Vehicle Parts Industry

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
336300	Motor Vehicle Parts Manufacturing	23,710	24,600	0.37	1.25
339100	Medical Equipment and Supplies Manufacturing	1,780	2,310	2.65	0.42
335300	Electrical Equipment Manufacturing	950	1,130	1.72	0.47
335900	Other Electrical Equipment and Component Manufacturing	660	820	2.26	0.63

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Advanced Energy – Utilities and Construction

Total AE employment in utilities and construction was 47,000 in 2018 and forecast to expand to 53,960 by 2028. Construction is forecast to be one of the fastest- growing industries in the Middle Region through 2028. Four of the industries have location quotients larger than 1.2, showing specialization for these industries in this region.

Table 26: High Growth Rates in AE Construction

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Middle LQ
238200	Building Equipment Contractors	17,460	20,550	1.64	0.98
238100	Foundation, Structure, and Building Exterior Contractors	7,790	9,270	1.76	1.21
236100	Residential Building Construction	6,170	6,960	1.21	1.21
236200	Nonresidential Building Construction	5,080	5,610	1.00	0.86
238300	Building Finishing Contractors	4,890	5,470	1.14	1.06
237100	Utility System Construction	3,750	4,160	1.03	1.22
221100	Electric Power Generation, Transmission and Distribution	1,330	1,430	0.75	1.25

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Advanced Energy- Professional Scientific and Technical Industries

Total employment in this AE sector was 43,140 in 2018 and is expected to grow rapidly to 57,950 by 2028.

Table 27: Computer Systems Design Growing 4 Times Faster than Regional Average

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Midle LQ
541600	Management, Scientific, and Technical Consulting Services	15,430	18,410	1.78	1.20
541500	Computer Systems Design and Related Services	10,570	16,770	4.73	1.24
541300	Architectural, Engineering, and Related Services	9,670	12,580	2.67	1.11
541900	Other Professional, Scientific, and Technical Services	5,530	7,730	2.90	1.05
541700	Scientific Research and Development Services	1,100	2,030	6.31	0.32

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

Advanced Energy- Other Services

Total employment was 7070 in 2018, increasing to 8680 by 2028. Medical and diagnostic labs are needed to provide test results for COVID-19 and other illnesses and should grow along with the health care industry.

Table 28: AE Other Services Sector Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	Midle LQ
621500	Medical and Diagnostic Laboratories	4,200	5,260	2.28	1.41
81130	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	1,460	1,690	1.45	0.85
811200	Electronic and Precision Equipment Repair and Maintenance	1,410	1,730	2.08	1.11

Source: TDLWD, WIR²ED, Middle Region Industry Employment Projections 2018-2028

The table below identifies top job categories projected to create new jobs in the Advanced Energy Industries by 2028. Occupations are listed if they are in the top ten in terms of new jobs to be created, or if there are not ten, jobs expected to have 30 or more openings. Some occupations are not included due to confidentiality. In addition to new jobs created in these industries, individuals transferring from these jobs and exiting the labor force altogether will create more separations openings in these occupations.

Table 29: Top Ten Job Categories in AE Professional and Technical Industries to Create More than 4,000 New Jobs by 2028

Middle Region - Largest Occupations in the Advanced Energy Industries	Estimated New Jobs 2018-28
Advanced Energy Manufacturing	
First-Line Supervisors of Production and Operating Workers	250
Industrial Engineers	190
Industrial Machinery Mechanics	180
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	150
Welders, Cutters, Solderers, and Brazers	130
Helpers--Production Workers	130
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	120
Laborers and Freight, Stock, and Material Movers, Hand	110
Dental Laboratory Technicians	100
Machinists	100
Advanced Energy - Professional, Scientific, and Technical Services	
Computer Systems Analysts	830
Software Developers, Systems Software	720
Computer User Support Specialists	570
Software Developers, Applications	570
Market Research Analysts and Marketing Specialists	380
Veterinary Technologists and Technicians	360
General and Operations Managers	280
Customer Service Representatives	240
Computer Programmers	240
Training and Development Specialists	230

Table 29: Top Ten Job Categories in AE Professional and Technical Industries to Create More than 4,000 New Jobs by 2028 Continued

Middle Region - Largest Occupations in the Advanced Energy Industries	Estimated New Jobs 2018-28
Advanced Energy - Utilities and Construction	
Construction Laborers	810
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	690
Electricians	660
Plumbers, Pipefitters, and Steamfitters	510
First-Line Supervisors of Construction Trades and Extraction Workers	390
Construction Managers	280
Carpenters	250
General and Operations Managers	180
Brick masons and Block masons	150
First-Line Supervisors of Mechanics, Installers, and Repairers	140
Advanced Energy - Other Services	
Phlebotomists	90
Billing and Posting Clerks	50
Bookkeeping, Accounting, and Auditing Clerks	40
Computer, Automated Teller, and Office Machine Repairers	30
Customer Service Representatives	30
Advanced Energy - Information Technology	
Customer Service Representatives	620
Computer User Support Specialists	350
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	320
General and Operations Managers	260
Software Developers, Systems Software	220
Financial Managers	200
Software Developers, Applications	180

Computer Systems Analysts	180
Market Research Analysts and Marketing Specialists	170
Packers and Packagers, Hand	170

Source: TDLWD, WIR²ED, Middle Region LT Projections 2018-2028, industry occupation matrix

East Region Emerging Industries- Advanced Energy

Total employment in the East Region in AE manufacturing is projected to increase from 46,050 to 49,220 in 2028. Some of the largest industries in AE manufacturing in the East Region that are growing are:

Table 30: Motor Vehicle Parts Top Industry

NAICS Code	East LQ	Industry Title	Est. 2018 Employment	Proj. 2028 Employment
336300	1.19	Motor Vehicle Parts Manufacturing	18,410	19,160
336600	2.45	Ship and Building	2,970	3,310
336200	2.43	Motor Vehicle Body and Trailer Manufacturing	1,830	1,990
331500	1.60	Foundries	1,710	1,850
336400	2.00	Aerospace Product and Parts Manufacturing	1,590	1,610
339100	0.45	Medical Equipment and Supplies Manufacturing	1,550	1,890

Source: TDLWD, WIR²ED Division, East Region Long Term Projections 2018-2028

Other Advanced Energy Sectors- Utilities and Construction and Information

Total employment in the East Region in the AE utility and construction industries was 36,770 in 2018 and expected to grow to 40,550 by 2028. The industries with the highest location quotients and positive growth rates include nonresidential building and other heavy and civil engineering construction. The table below displays industries in utilities and construction in the AE cluster with more than 1,000 employment and positive growth rates. Several have expected growth rates nearly double the average for all industries in the East Region.

Table 31: AE Construction Industries Experiencing Growth

NAICS Code	East LQ	Industry Title	Est. 2018 Employment	Proj. 2028 Employment	Ann. Avg. Growth Rate
236100	0.95	Residential Building Construction	3,960	4,250	0.73
236200	1.32	Nonresidential Building Construction	6,330	6,410	0.13
237100	0.96	Utility System Construction	2,380	2,790	1.64
238100	0.83	Foundation, Structure, and Building Exterior Contractors	4,340	4,910	1.22
238200	1.00	Building Equipment Contractors	14,410	16,540	1.39
238300	1.00	Building Fishing Contractors	3,740	3,950	0.56

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

The advanced energy information sector is not as strong in the East Region. Software publishers, however, are expected to add employment more than twice as fast as the average for all industries.

Advanced Energy- Professional, Scientific, and Technical Services

This is one of the East Region's most rapidly growing sectors, with employment of 29,890 in 2018 which is expected to increase to 37,220 in 2028. The professional, scientific, and technical services industry (NAICS 541) is especially strong in this region, with two industries having location quotients greater than 1.1.

Table 32: AE Professional, Scientific, Technical Industries will Grow Rapidly

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
541500	Computer Systems Design and Related Services	4,160	5,850	3.47	0.60
541600	Management, Scientific, and Technical Consulting Services	6,360	9,810	4.43	0.61
541700	Scientific Research and Development Services	6,210	7,400	1.77	2.28
541900	Other Professional, Scientific, and Technical Services	5,010	6,120	2.04	1.18

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Advanced Energy- Other Services

AE other services includes the important industries of medical and diagnostic laboratories and commercial and industrial machinery and repair, both with more than 1,000 employment in 2018. Total employment in AE other services was 4,490 in 2018, expected to grow to 5,100 in 2028, a growth

rate nearly twice that of the average for the East Region (note that base and projected numbers were before rounding).

Table 33: AE Other Services Sector Growth Industries

NAICS Code	Industry Title	Est. Employ. 2018	Proj. Employ. 2028	Annual Growth Rate	East LQ
621500	Medical and Diagnostic Laboratories	1,580	1,890	1.79	0.64
81130	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	1,810	2,020	1.11	1.23

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

Table 34: East Region - Largest AE Occupations

East Region - Largest Occupations in the Advanced Energy Industries	Estimated New Jobs 2018-28
Advanced Energy Manufacturing - Top 10 Occupations	
Welders, Cutters, Solders, and Brazers	80
Maintenance and Repair Workers, General	70
Industrial Engineers	70
First-Line Supervisors of Production and Operating Workers	70
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	60
Dental Laboratory Technicians	60
Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers	60
Mechanical Engineers	40
Helpers--Production Workers	40
Laborers and Freight, Stock, and Material Movers, Hand	40
Advanced Energy - Professional, Scientific, and Technical Services	
Veterinary Assistant and Laboratory Animal Caretakers	370
Computer User Support Specialists	280
Software Developers, Applications	260
General and Operations Managers	240
Veterinarians	180

Computer Systems Analysts	180
Software Developers, Systems Software	170
Laborers and Freight, Stock, and Material Movers, Hand	160
First-Line Supervisors of Office and Administrative Support Workers	150
Customer Service Representatives	130
Advanced Energy - Utilities and Construction	
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	350
Construction Laborers	280
Plumbers, Pipefitters, and Steamfitters	280
First-Line Supervisors of Construction Trades and Extraction Workers	210
Construction Managers	110
First-Line Supervisors of Mechanics, Installers, and Repairers	90
Carpenters	90
General and Operations Managers	60
Helpers--Electricians	60
Electrical Power-Line Installers and Repairers	60
Advanced Energy - Other Services	
Clinical Laboratory Technologists and Technicians	110
Industrial Machinery Mechanics	50

Source: TDLWD, WIR²ED, East Region Long Term Projections 2018-2028

In addition to new jobs created in these industries, individuals transferring from these jobs and exiting the laborforce altogether will create more openings in these occupations.

Economic & Workforce Analysis

Economic Analysis

The Unified or Combined State Plan must include an analysis of the economic conditions and trends in the State, including sub-State regions and any specific economic areas identified by the State. This must include—

- (i) Existing Demand Industry Sectors and Occupations.
- (ii) Emerging Demand Industry Sectors and Occupations. Provide an analysis of the industries and occupations for which demand is emerging.
- (iii) Employers' Employment Needs.** With regard to the industry sectors and occupations identified in (A)(i) and (ii), provide an assessment of the employment needs of employers, including a description of the knowledge, skills, and abilities required, including credentials and licenses.

(A) Economic Analysis
(iii) Employers' Employment Needs

The table below shows the latest information in jobs4tn.gov on the top certifications employers are listing in their job openings in Tennessee. The certifications listed show the extent to which employers are actively dealing with the effects of COVID-19 in the state and the shortages in the skilled workforce this is creating. More than half of the top certifications relate to healthcare occupations- nursing, respiratory care, emergency medical technicians, and pharmacy technicians. With increases in e-commerce, package delivery, and growth in transportation and warehousing, commercial driver's licenses are an important need, as well as material-moving management. Family financial and mental health stresses during the pandemic are creating the need for more social workers.

The table below shows the top advertised certification groups found in job openings advertised online in Tennessee in December 2021.

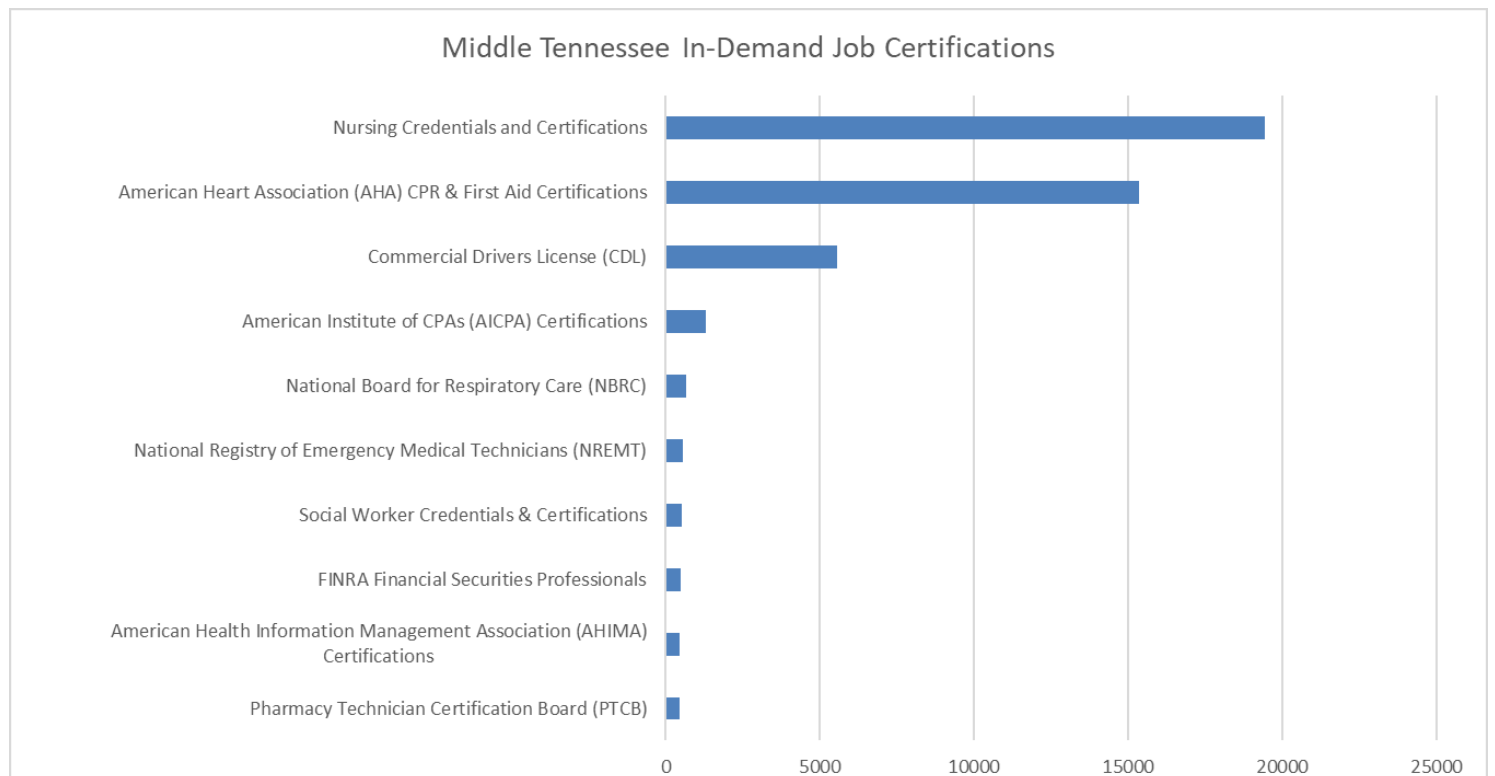
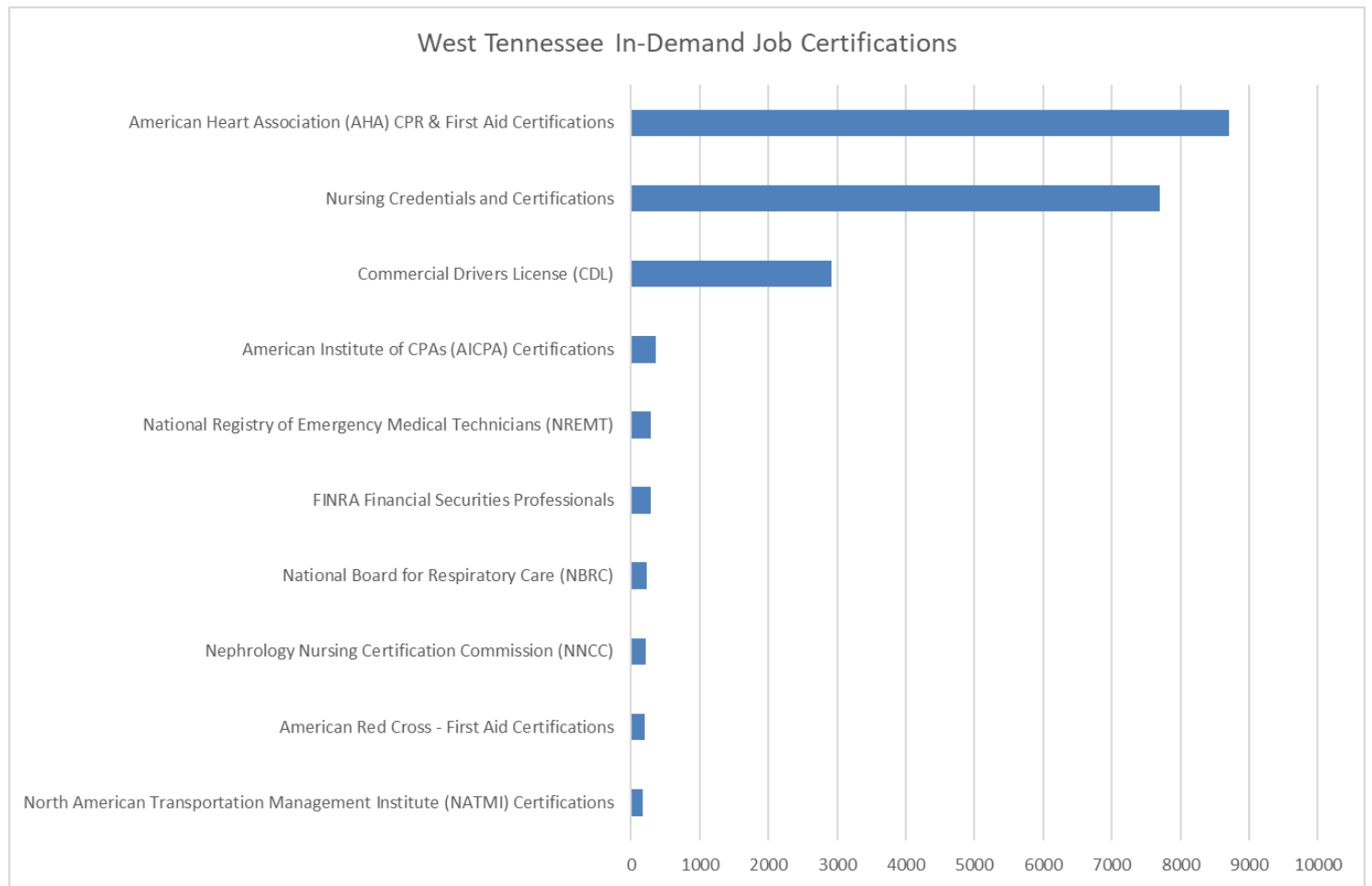
Tennessee Advertised Job Certifications Table

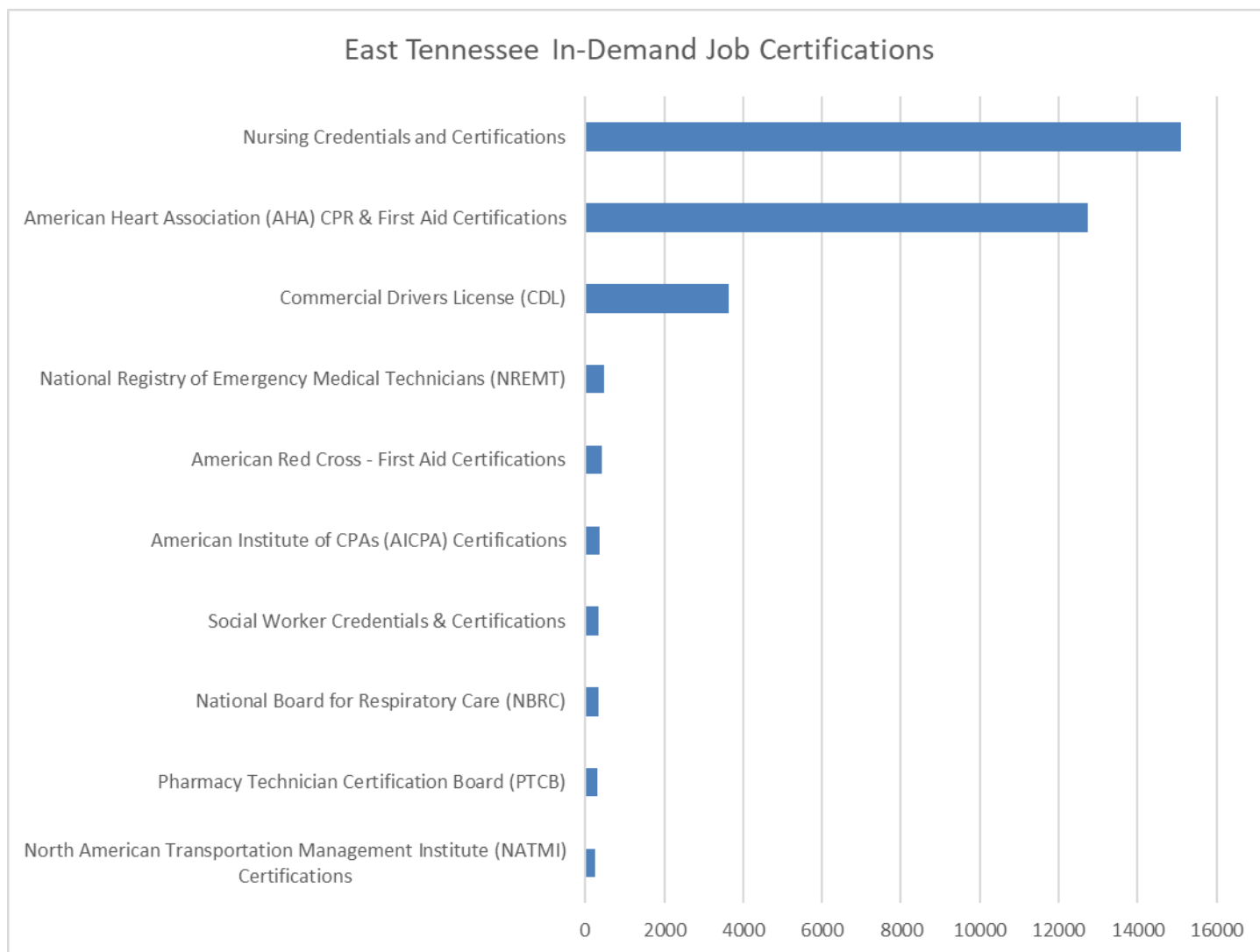
Table 35: Top advertised certification groups

Rank	Advertised Certification Group	Advertised Certification Sub-Category	Job Opening Match Count
1	Nursing Credentials and Certifications	Nursing	40,572
2	American Heart Association (AHA) CPR & First Aid Certifications	Nursing	35,384
3	Commercial Drivers License (CDL)	Ground Transportation	13,256
4	American Institute of CPAs (AICPA) Certifications	Financial Specialists	2,029
5	Social Worker Credentials & Certifications	Social and Human Services	1,181
6	National Registry of Emergency Medical Technicians (NREMT)	Fire Rescue	1,160
7	American Red Cross - First Aid Certifications	Nursing	1,080
8	National Board for Respiratory Care (NBRC)	Medical Treatment and Therapy	978
9	Pharmacy Technician Certification Board (PTCB)	Pharmaceutical	922
10	North American Transportation Management Institute (NATMI) Certifications	Transportation and Material Moving Management	685

Source: Online advertised jobs data
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The following graphs display the top certifications in each of the three regions in the state.





Sources: Jobs4tn.gov, area profile, top employer certifications, December 2021.

The top certifications for each of the regions are similar to those needed for the state. All regions are still dealing with the serious effects of the pandemic.

A regional analysis of licenses and certifications, knowledge, and skills related to the demand occupations identified resulted in the following categories being ranked at the top in terms of knowledge and abilities. The highest-ranked categories by far, tied for number one, were customer and personal service and English language knowledge. Safety knowledge was next in importance. Closely following in importance was mathematics. This points out the paramount importance of foundational knowledge in math and language. Administration and management, clerical, and medicine and dentistry knowledge were tied for next in importance.

Top Knowledge Categories
Customer and Personal Service
English Language
Public Safety and Security
Mathematics
Administration and Management
Clerical
Medicine and Dentistry

The top- ranking category, oral comprehension, depends on attentive listening ability. Next is the ability to express oneself orally. Problem detection and solving are also high on the list, as are reasoning abilities. For numerous occupations, visual ability is critical.

Top Ability Categories
Oral Comprehension
Oral Expression
Near Vision
Problem Sensitivity
Deductive Reasoning
Inductive Reasoning
Multilimb Coordination
Written Comprehension

Licenses and certifications required for the demand occupations included engineer intern and professional engineer, medical laboratory technician, medical laboratory technologist, emergency medical technician (EMT), EMT responder, EMT paramedic, commercial driver's license, licensed practical nurse, registered nurse (RN), RN first assistant, licensed registered respiratory therapist, and veterinary medical technician. Extensive information on job requirements including top knowledge, skills, and abilities and licensing requirements is available in the Occupational Profile section of jobs4tn.gov by region and LWDA.

Tennessee

Economic & Workforce Analysis

PY 2022-2023

Workforce Analysis

The Unified or Combined State Plan must include an analysis of the current workforce, including individuals with barriers to employment, as defined in section 3 of WIOA⁴. This population must include individuals with disabilities among other groups⁵ in the State and across regions identified by the State. This includes—

(i) Employment and Unemployment. Provide an analysis of current employment and unemployment data, including labor force participation rates, and trends in the State.

(ii) Labor Market Trends. Provide an analysis of key labor market trends, including across existing industries and occupations.

(iii) Education and Skill Levels of the Workforce. Provide an analysis of the educational and skill levels of the workforce.

(iv) Skill Gaps. Describe apparent 'skill gaps'

Workforce and Labor Force Issues in Tennessee's West Region and Comparison to the State

The population in the West Region in 2020 was estimated at 1,569,363, a decrease of 0.04 percent over 2019. This is a slightly slower rate of decline than the previous year's decline of 0.12 percent. Only the Southwest LWDA increased in population. It added an estimated 469 people, while the Greater Memphis LWDA lost an estimated 431 and the Northwest LWDA an estimated 720 people. Females were 52.0 percent of the population in the West Region during 2020. The Greater Memphis LWDA had the highest percent of females in the population in 2020 at 52.4 percent, compared to the Southwest LWDA at 51.3 percent and the Northwest LWDA at 51.1 percent.

The labor force participation rate in the West Region was 60.5 percent, just 0.9 percentage points lower than the State's rate of 61.4 percent. The Greater Memphis LWDA had the highest labor force participation rate at 63.8 percent, while the Northwest LWDA had the lowest at 53.6 percent. Average unemployment rates increased in all three LWDA's in the West Region, for a West Region average of 8.8 percent. The Greater Memphis LWDA had the highest unemployment rate at 9.4 percent, 0.6 percentage points above the West Region and 1.9 percentage points above the State's rate of 7.5 percent.

The lowest rate of higher educational attainment (attainment of some college or more for those 25 years of age or older) was in the Northwest LWDA, with a rate of 42.3 percent compared to the West Region's rate of 54.0 percent and the State's rate of 55.4 percent. In the West Region, the greatest percentage of those with a high school degree or more (88.6 percent) were those who identified as white. Those who identified as Hispanic, or Latino only had the lowest percentage (56.5 percent).

West Tennessee	
Local Workforce Development Areas and Counties	
Southwest Tennessee (LWDA 7)	
Chester	Haywood
Decatur	Henderson
Hardeman	Madison
Hardin	McNairy
Northwest Tennessee (LWDA 8)	
Benton	Henry
Carroll	Lake
Crockett	Obion
Dyer	Weakley
Gibson	
Greater Memphis Tennessee (LWDA 9)	
Fayette	Shelby
Lauderdale	Tipton

Poverty rates decreased slightly in the West Region from 19.9 percent in 2018 to 18.8 percent in 2019. The Northwest LWDA had the highest poverty rate at 19.0 percent, just slightly above the West Region and 3.8 percentage points above the State's poverty rate of 15.2 percent. The Greater Memphis LWDA had a poverty rate of 18.8 and the Southwest LWDA had a poverty rate of 18.5 percent.

The percent of the unemployed with a disability in the West Region was 14.1 percent, 2.6 percentage points higher than the State's percent of the unemployed with a disability of 11.5 percent. The Greater

Memphis LWDA had the highest percentage of those unemployed with a disability at 15.0 percent; the Northwest LWDA had the lowest percentage at 11.9 percent. The percent of those not in the labor force with a disability was 33.2 percent in the WestRegion, lower than the State’s 33.7 percent. The Northwest LWDA had the highest percent of those not in the labor force with a disability at 42.6 percent, while the Greater Memphis LWDA had the lowest at 30.0 percent.

Table 1: West Region Labor Force Data

	Southwest LWDA	Northwest LWDA	Greater Memphis LWDA	West Region	State Total
Total Population 2019	257,437	247,171	1,065,437	1,570,045	6,830,325
Total Population 2020	257,906	246,451	1,065,006	1,569,363	6,886,834
Male Population 2020	125,568	120,533	507,210	753,311	3,358,020
Female Population 2020	132,338	125,918	557,796	816,052	3,528,814
Labor Force Participation Rate 2018 (5-Year Estimate)	54.4%	53.4%	63.8%	60.6%	61.2%
Labor Force Participation Rate 2019 (5-Year Estimate)	54.0%	53.6%	63.8%	60.5%	61.4%
Annual Average Unemployment Rate 2019 Percent	4.1%	4.5%	4.0%	4.1%	3.4%
Annual Average Unemployment Rate 2020 Percent	7.7%	7.1%	9.4%	8.8%	7.5%
Educational Attainment 25 Years and Over (2019) Some College Or Higher - Percent	44.3%	42.3%	59.2%	54.0%	55.4%
Poverty Estimate, All Ages, Percent (2019)	18.5%	19.0%	18.8%	18.8%	15.2%
Percentage of Unemployed with a Disability (2019)	13.0%	11.9%	15.0%	14.1%	11.5%
Percent of Those Not in the Labor Force with a Disability (2019)	35.1%	42.6%	30.0%	33.2%	33.7%

Source: U.S. Census, American Community Survey, 2019

Table 2: West Region Educational Attainment by Race, 2018

Educational Attainment	West Region White Only	West Region Black Only	West Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	617,935	373,166	37,660	3,641,698	697,227	173,116
High school graduate only	367,716	250,067	16,377	2,191,041	457,713	81,607
Percent high school graduate only	59.51%	67.01%	43.49%	60.17%	65.65%	47.14%
High school graduate or higher	547,632	314,758	21,284	3,194,533	595,489	107,877
Percent high school graduate or higher	88.62%	84.35%	56.52%	87.72%	85.41%	62.31%
Bachelor degree or higher	179,916	64,691	4,907	1,003,492	137,776	26,270
Percent bachelor degree or higher	29.12%	17.34%	13.03%	27.56%	19.76%	15.17%

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
(2015-2019 5-Year Estimates are not available)

Youth unemployment for those ages 16 to 24 topped 12 percent in all three LWDA's in the West Region. The Southwest LWDA had the highest youth unemployment rate at 18.5 percent. Greater Memphis LWDA had a youth unemployment rate of 14.4 percent, compared to 12.7 percent in the Northwest; both had a rate lower than the West Region, which was 14.8 percent.

Table 3: West Region Disability Status of Those in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployed W/O Disability
Southwest LWDA	143,781	99,930	93,122	5,039	88,083	6,808	756	6,052
Northwest LWDA	142,176	98,613	92,996	7,578	85,418	5,617	1,028	4,589
Greater Memphis LWDA	643,218	492,152	457,271	22,919	434,352	34,881	4,052	30,829
West Region	929,175	690,695	643,389	35,536	607,853	47,306	5,836	41,470
Tennessee	4,053,247	3,052,526	2,893,064	179,393	2,713,671	159,462	23,420	136,042

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 4: West Region Disability Status of Those Not in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Not In Labor Force	Not in Labor Force W Disability	Not In Labor Force W/O Disability	% W Disability	% W/O Disability
Southwest LWDA	143,781	43,851	15,411	28,440	35.1%	64.9%
Northwest LWDA	142,176	43,563	18,571	24,992	42.6%	57.4%
Greater Memphis LWDA	643,218	151,066	45,260	105,806	30.0%	70.0%
West Region	929,175	238,480	79,242	159,238	33.2%	66.8%
Tennessee	4,053,247	1,000,721	337,665	663,056	33.7%	66.3%

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 5: West Region Youth Unemployment, Ages 16-24 in 2019

Area	Labor Force	Unemployment	Rate
Southwest LWDA	15,468	2,864	18.5%
Northwest LWDA	15,936	2,017	12.7%
Greater Memphis LWDA	72,151	10,410	14.4%
West Region	103,555	15,291	14.8%

Source: U.S. Census Bureau, 2015-2019 American Community Survey, 2019, 5-year estimates

Barriers to Employment

Listed below are numbers of individuals with significant barriers to employment by LWDAs, with region and state totals. * indicates counties of commitment, not residence, in the table below. The sources listed below provided the data for barriers to employment.

Source: Population: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services, Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2019.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

TANF 24 Months for Ending Eligibility: Lakecia Peerson, Division of Family Assistance and Child Support, TN Department of Human Services.

Table 6: West Region - Significant Barriers to Employment

	Southwest LWDA	Northwest LWDA	Greater Memphis LWDA	West Region	State Total
Number of American Indians or Alaskan Natives alone	379	911	2,324	3,614	18,189
Population Ages 15-19	17,257	18,983	73,172	109,412	422,111
Population Ages 20-24	17,132	18,933	76,676	112,741	458,394
Population Ages 55+	75,141	92,114	241,620	408,875	1,784,288
Number of Veterans 2020	15,603	19,901	60,552	96,056	456,197
Number Below Poverty	44,076	50,598	190,066	284,740	996,930
Number With Disability	18,108	8,488	114,980	136,576	737,731
Number of Single Parent Families	7,331	7,606	41,513	56,450	184,062
Probationers and Parolees	3,139	2,914	10,023	16,076	68,391
Community Correction	1,382	318	439	2,139	7,454
Mental Health Court Statistics(FY 2020)	0	0	85	85	218
Limited English Speaking	558	723	7,359	8,640	38,144
*Foster Care Services - Youth Aged Out	17	23	127	167	717
Clients In Recovery Courts(2020)	184	129	530	843	3,159
Veterans Recovery Courts	0	0	55	55	208
In School Youth Experiencing Homelessness in 2019	621	195	1,735	2,551	17,228
TANF 24 Months From Ending Total 2020	144	89	460	693	1,773
Prison and Jail Population Tot.	3,570	2,323	3,479	9,372	26,908

Workforce and Labor Force Issues in Tennessee's Middle Region and Comparison to the State

Population in the Middle Region in 2020 was estimated at 2,832,779, an increase of 1.3 percent over 2019. This is a slower rate of growth than the 2019 rate of 4.7 percent. All three LWDA's in the Middle Region increased in population: Northern Middle by 29,029, Upper Cumberland by 3,954, and Southern Middle by 2,716 people. Northern Middle LWDA had the highest percent of females in the population (51.1 percent).

The labor force participation rate in the Middle Region was 64.9 percent, which is 3.5 percentage points higher than the State's rate of 61.4 percent. Northern Middle LWDA had the highest labor force participation rate at 68.6 percent, while Upper Cumberland had the lowest at 53.6 percent. Average unemployment rates increased in all of the three LWDA's in the Middle Region, for a Middle Region average of 7.1 percent. The Southern Middle LWDA had the highest unemployment rate at 7.9 percent, 0.8 percentage points above the Middle Region and 0.4 percentage points above the State's rate of 7.5 percent.

The lowest rate of higher educational attainment (attainment of some college or more for those 25 years of age or older) is in the Upper Cumberland LWDA, with a rate of 41.4 percent compared to the Middle Region's rate of 58.1 percent and the State's rate of 55.4 percent. In the Middle Region, the greatest percentage of those with a high school degree or more (88.67) were those who identified as white. Those who identified as Hispanic or Latino only had the lowest percent at 66.1.

Poverty rates decreased in the Middle Region from 14.0 percent in 2018 to 13.1 percent in 2019. The Upper Cumberland LWDA had the highest poverty rate at 18.0 percent, which is above the Middle Region and 2.8 percentage points above the State's poverty rate of 15.2 percent. Northern Middle had the lowest poverty rate at 11.8 percent.

The percent of the unemployed with a disability in the Middle Region was 9.3 percent, 1.8 percentage points lower than the State's percent of the unemployed with a disability of 11.5 percent. The Southern Middle LWDA had the highest percentage at 11.7 percent; the Northern Middle LWDA had the lowest percentage at 8.6 percent. The percent of those not in the labor force with a disability was at 31.5 percent in the Middle Region, lower than the State's 33.7 percent. The Southern Middle LWDA had the highest percent of those not in the labor with a disability at 37.9 percent, while the Northern Middle LWDA had the lowest at 28.1 percent.

Middle Tennessee	
Local Workforce Development Areas and Counties	
Upper Cumberland Tennessee (LWDA 3)	
Cannon	Overton
Clay	Pickett
Cumberland	Putnam
Dekalb	Smith
Fentress	Van Buren
Jackson	Warren
Macon	White
Southern Middle Tennessee (LWDA 5)	
Bedford	Lincoln
Coffee	Marshall
Franklin	Maury
Giles	Moore
Hickman	Perry
Lawrence	Wayne
Lewis	
Northern Middle Tennessee (LWDA 6)	
Cheatham	Rutherford
Davidson	Stewart
Dickson	Sumner
Houston	Trousdale
Humphreys	Williamson
Montgomery	Wilson
Robertson	

Youth unemployment for those ages 16 to 24 topped 9 percent in all three LWDA's in the Middle Region. The Upper Cumberland LWDA had the highest youth unemployment rate at 12.6 percent compared to Southern Middle LWDA at 10.1 percent and the Northern Middle LWDA at 9.0 percent. The total youth unemployment rate for the Middle Region was 9.5 percent.

Table 7: Middle Region Labor Force Data

	Upper Cumberland LWDA	Southern Middle LWDA	Northern Middle LWDA	Middle Region	State Total
Total Population 2019	364,637	404,797	2,027,646	2,797,080	6,830,325
Total Population 2020	368,591	407,513	2,056,675	2,832,779	6,886,834
Male Population 2020	182,202	201,530	1,005,290	1,389,022	3,358,020
Female Population 2020	186,389	205,983	1,051,385	1,443,757	3,528,814
Labor Force Participation Rate 2018 (5-Year Estimate)	53.4%	57.4%	68.4%	64.6%	61.2%
Labor Force Participation Rate 2019 (5-Year Estimate)	53.6%	57.9%	68.6%	64.9%	61.4%
Annual Average Unemployment Rate 2019 Percent	3.9%	3.5%	2.7%	2.9%	3.4%
Annual Average Unemployment Rate 2020 Percent	7.2%	7.9%	7.0%	7.1%	7.5%
Educational Attainment 25 Years and Over (2019) Some College Or Higher - Percent	41.4%	44.7%	64.4%	58.1%	55.4%
Poverty Estimate, All Ages, Percent (2019)	18.0%	14.3%	11.8%	13.1%	15.2%
Percentage of Unemployed with a Disability (2019)	10.3%	11.7%	8.6%	9.3%	11.5%
Percent of Those Not in the Labor Force with a Disability (2019)	37.6%	37.9%	28.1%	31.5%	33.7%

Source: U.S. Census, American Community Survey, 2019

Table 8: Middle Region Educational Attainment by Race, 2018

Educational Attainment	Middle Region White Only	Middle Region Black Only	Middle Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	1,527,939	230,328	89,410	3,641,698	697,227	173,116
High school graduate only	893,398	143,689	44,726	2,191,041	457,713	81,607
Percent high school graduate only	58.47%	62.38%	50.02%	60.17%	65.65%	47.14%
High school graduate or higher	1,354,842	201,485	59,114	3,194,533	595,489	107,877
Percent high school graduate or higher	88.67%	87.48%	66.12%	87.72%	85.41%	62.31%
Bachelor degree or higher	461,444	57,796	14,388	1,003,492	137,776	26,270
Percent bachelor degree or higher	30.20%	25.09%	16.09%	27.56%	19.76%	15.17%

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Table 9: Middle Region Disability Status of Those in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployed W/O Disability
Upper Cumberland LWDA	203,910	142,052	134,782	9,133	125,649	7,270	1,049	6,221
Southern Middle LWDA	259,971	190,524	181,392	11,982	169,410	9,132	1,589	7,543
Northern Middle LWDA	1,229,801	982,998	943,044	55,867	887,177	39,954	5,250	34,704
Middle Region	1,693,682	1,315,574	1,259,218	76,982	1,182,236	56,356	7,888	48,468
Tennessee	4,053,247	3,052,526	2,893,064	179,393	2,713,671	159,462	23,420	136,042

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 10: Middle Region Disability Status of Those Not in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Not In Labor Force	Not in Labor Force W Disability	Not In Labor Force W/O Disability	% W Disability	% W/O Disability
Upper Cumberland LWDA	203,910	61,858	23,266	38,592	37.6%	62.4%
Southern Middle LWDA	259,971	69,447	26,302	43,145	37.9%	62.1%
Northern Middle LWDA	1,229,801	246,803	69,470	177,333	28.1%	71.9%
Middle Region	1,693,682	378,108	119,038	259,070	31.5%	68.5%
Tennessee	4,053,247	1,000,721	337,665	663,056	33.7%	66.3%

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 11: Middle Region Youth Unemployment, Ages 16-24 in 2019

Area	Labor Force	Unemployment	Rate
Upper Cumberland LWDA	23,002	2,899	12.6%
Southern Middle LWDA	28,172	2,842	10.1%
Northern Middle LWDA	158,113	14,169	9.0%
Middle Region	209,287	19,910	9.5%

Source: U.S. Census Bureau, 2015-2019 American Community Survey, 2019, 5 year estimates.

Table 12: Middle Region - Significant Barriers to Employment

	Upper Cumberland LWDA	Southern Middle LWDA	Northern Middle LWDA	Middle Region	State Total
Number of American Indians or Alaskan Natives alone	1,205	967	5,515	7,687	18,189
Population Ages 15-19	21,835	26,695	118,606	167,136	422,111
Population Ages 20-24	22,934	26,367	134,910	184,211	458,394
Population Ages 55+	112,202	128,059	416,687	656,948	1,784,288
Number of Veterans 2020	25,183	29,912	132,494	187,589	456,197
Number Below Poverty	61,869	61,980	222,186	346,035	996,930
Number With Disability	30,843	42,428	204,665	277,936	737,731
Number of Single Parent Families	8,758	11,846	50,369	70,973	184,062
Probationers and Parolees	3,323	3,609	24,128	31,060	68,391
Community Correction	365	481	2,059	2,905	7,454
Mental Health Court Statistics (FY 2020)	0	0	39	39	218
Limited English Speaking	1,342	2,125	16,607	20,074	38,144
*Foster Care Services - Youth Aged Out	62	58	164	284	717
Clients In Recovery Courts (2020)	249	272	900	1,421	3,159
Veterans Recovery Courts	6	0	125	131	208
In School Youth Experiencing Homelessness in 2019	1,129	70	8,016	9,215	17,228
TANF 24 Months From Ending Total 2020	45	104	393	542	1,773
Prison and Jail Population Total 2020	477	3,330	5,896	9,703	26,908

* Counties of commitment, not residence.

Source: Population: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services,

Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2019.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

TANF 24 Months for Ending Eligibility: Lakecia Peerson, Division of Family Assistance and Child Support, TN Department of Human Services.

Listed above are numbers of individuals with significant barriers to employment by LWDA's, with region and state totals.

Workforce and Labor Force Issues in Tennessee's East Region and Comparison to the State

Population in the East Region in 2020 was estimated at 2,484,692, an increase of 0.87 percent over 2019. This is a slower rate of growth than the previous year's growth of 2.20 percent. All three LWDA's in the East Region increased in population. East LWDA added 11,795 people, Southeast LWDA added 8,523 people, and Northeast LWDA added 1,174 people. Females made up 51.1 percent of the population in the East Region during 2020. Southeast LWDA had the highest percent of the female population at the rate of 51.3 percent.

Labor force participation rate in the East Region was 57.8 per- cent, which is 3.4 percentage points lower than the State's labor force participation rate of 61.2 percent. Southeast LWDA had the highest labor force participation rate at 59.3 percent, while the Northeast LWDA had the lowest labor force participation rate at 53.9 percent. Average unemployment rates increased in all three LWDAs in the East Region, for an East Region average of 7.0 per- cent. The Southeast LWDA had the highest unemployment rate at 7.3 percent, 0.3 percentage points above the East Region and 0.2 percentage points below the State's rate of 7.5 percent.

The lowest rate of higher educational attainment (attainment of some college or more for those 25 years of age or higher) is in the Northeast LWDA, with a rate of 49.9 percent compared to the East Region's rate of 53.2 percent and the State's rate of 55.4 percent. In the East Region, the highest percentage of those with a high school degree or higher were those who identified as white. Those who identify as Hispanic or Latino only had the lowest percent of high school degrees or higher at 59.68 percent.

Poverty rates decreased in the East Region from 16.4 percent in 2018 to 15.7 percent in 2019. The Northeast LWDA had the highest poverty rate at 17.5 percent, above the East Region and 2.3 per- centage points above the State's poverty rate of 15.2 percent. The East LWDA had a poverty rate of 15.4 percent and the Southeast LWDA had a poverty rate of 15.0 percent.

The percent of the unemployed with a disability in the East Region was 12.7 percent, 1.2 percentage points higher than the State's percent of the unemployed with a disability of 11.5 percent. The East LWDA had the highest percentage of those unemployed with a disability at 13.0 percent. The Southeast LWDA had the lowest percentage of those unemployed with a disability at 12.1 percent.

The percent of those not in the labor force with a disability was at 36.2 percent in the East Region, higher than the State's 33.7 percent of those not in the labor force with a disability. The Northeast LWDA had the highest percent of those not in the labor force with a disability at 40.5 percent, while the East LWDA had the lowest at 34.4 percent.

East Tennessee	
Local Workforce Development Areas and Counties	
Northeast Tennessee (LWDA 1)	
Carter	Johnson
Greene	Sullivan
Hancock	Unicoi
Hawkings	Washington
East Tennessee (LWDA 2)	
Anderson	Knox
Blount	Loudon
Campbell	Monroe
Claiborne	Morgan
Cocke	Roane
Grainger	Scott
Hamblen	Sevier
Jefferson	Union
Southeast Tennessee (LWDA 4)	
Bledsoe	McMinn
Bradley	Meigs
Grundy	Polk
Hamilton	Rhea
Marion	Sequatchie

Youth unemployment for those ages 16 to 24 topped 10 percent in all three LWDA's in the East Region. The North-east LWDA had the highest youth unemployment rate at 11.3 percent. Southeast LWDA had a youth unemployment rate of 11.1 and the East had a youth unemployment rate of 10.1. Only the East LWDA had a rate lower than the total youth unemployment rate for the East Region, which was 10.6 percent.

Table 13: East Region Labor Force Data

	Northeast LWDA	East LWDA	Southeast LWDA	East Region	State Total
Total Population 2019	512,809	1,247,070	703,321	2,463,200	6,830,325
Total Population 2020	513,983	1,258,865	711,844	2,484,692	6,886,834
Male Population 2020	252,223	616,659	346,805	1,215,687	3,358,020
Female Population 2020	261,760	642,206	365,039	1,269,005	3,528,814
Labor Force Participation Rate 2018 (5-Year Estimate)	53.9%	58.8%	59.3%	57.8%	61.2%
Labor Force Participation Rate 2019 (5-Year Estimate)	54.1%	58.9%	59.4%	58.0%	61.4%
Annual Average Unemployment Rate 2019 Percent	3.9%	3.3%	3.5%	3.5%	3.4%
Annual Average Unemployment Rate 2020 Percent	7.2%	6.8%	7.3%	7.0%	7.5%
Educational Attainment 25 Years and Over (2019) Some College Or Higher - Percent	49.9%	53.6%	55.1%	53.2%	55.4%
Poverty Estimate, All Ages, Percent (2019)	17.5%	15.4%	15.0%	15.7%	15.2%
Percentage of Unemployed with a Disability (2019)	12.6%	13.0%	12.1%	12.7%	11.5%
Percent of Those Not in the Labor Force with a Disability (2019)	40.5%	34.4%	35.8%	36.2%	33.7%

Source: U.S. Census, American Community Survey, 2019

Table 14: East Region Educational Attainment by Race, 2018

Educational Attainment	East Region White Only	East Region Black Only	East Region Hispanic or Latino Only	Statewide White Only	Statewide Black Only	Statewide Hispanic or Latino Only
Population 25 years and over	1,495,824	93,733	46,046	3,641,698	697,227	173,116
High school graduate only	929,927	63,957	20,504	2,191,041	457,713	81,607
Percent high school graduate only	62.17%	68.23%	44.53%	60.17%	65.65%	47.14%
High school graduate or higher	1,292,059	79,246	27,479	3,194,533	595,489	107,877
Percent high school graduate or higher	86.38%	84.54%	59.68%	87.72%	85.41%	62.31%
Bachelor's degree or higher	362,132	15,289	6,975	1,003,492	137,776	26,270
Percent bachelor's degree or higher	24.21%	16.31%	15.15%	27.56%	19.76%	15.17%

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Table 15: East Region Disability Status of Those in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Labor Force	Total Employed	Employed W Disability	Employed W/O Disability	Total Unemployed	Unemployed W Disability	Unemployed W/O Disability
Northeast LWDA	301,980	211,457	199,847	16,134	183,713	11,610	2,333	9,277
East LWDA	736,030	542,938	514,196	32,146	482,050	28,742	4,822	23,920
Southeast LWDA	393,483	292,064	276,447	18,637	257,810	15,617	2,569	13,048
East Region	1,431,493	1,046,459	990,490	66,917	923,573	55,969	9,724	46,245
Tennessee	4,053,247	3,052,526	2,893,064	179,393	2,713,671	159,462	23,420	136,042

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 16: East Region Disability Status of Those Not in the Labor Force, 2019

Area	Civilian Non-institutional Population	Total Not In Labor Force	Not in Labor Force W Disability	Not In Labor Force W/O Disability	% W Disability	% W/O Disability
Northeast LWDA	301,980	90,523	36,620	53,903	40.5%	59.5 %
East LWDA	736,030	193,092	66,352	126,740	34.4%	65.6 %
Southeast LWDA	393,483	101,419	36,316	65,103	35.8%	64.2 %
East Region	1,431,493	385,034	139,288	245,746	36.2%	63.8 %
Tennessee	4,053,247	1,000,721	337,665	663,056	33.7%	66.3 %

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Table 17: East Region Youth Unemployment, Ages 16-24 in 2019

Area	Labor Force	Unemployment	Rate
Northeast LWDA	34,368	3,875	11.3%
East LWDA	91,602	9,258	10.1%
Southeast LWDA	44,334	4,943	11.1%
East Region	170,304	18,076	10.6%

Source: U.S. Census Bureau, 2015-2019 American Community Survey, 2019, 5-year estimates

Table 18: East Region - Significant Barriers to Employment

	Northeast LWDA	East LWDA	Southeast LWDA	East Region	State Total
Number of American Indians or Alaskan Natives alone	1,263	4,005	1,703	6,971	18,189
Population Ages 15-19	30,416	75,339	39,808	145,563	422,111
Population Ages 20-24	33,185	84,813	43,444	161,442	458,394
Population Ages 55+	166,700	362,782	188,983	718,465	1,784,288
Number of Veterans 2020	39,483	89,342	43,727	172,552	456,197
Number Below Poverty	86,237	184,750	95,168	366,155	996,930
Number With Disability	89,936	156,150	77,133	323,219	737,731
Number of Single Parent Families	12,631	28,163	15,845	56,639	184,062
Probationers and Parolees	5,623	10,935	4,697	21,255	68,391
Community Correction	425	1,460	525	2,410	7,454
Mental Health Court Statistics (FY 2020)	4	0	90	94	218
Limited English Speaking	829	5,532	3,069	9,430	38,144
*Foster Care Services - Youth Aged Out	44	153	69	266	717
Clients In Recovery Courts (2020)	152	555	188	895	3,159
Veterans Recovery Courts	0	16	6	32	208
In School Youth Experiencing Homelessness in 2019	1,214	2,261	1,987	5,462	17,228
TANF 24 Months From Ending Total 2020	106	261	171	538	1,773
Prison and Jail Population Total 2020	2,120	3,208	2,505	7,833	26,908

* Counties of commitment, not residence.

Source: Population: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates.

Probationers and Parolees, Community Corrections: Dr. Mary Karpos, TN Department of Correction, Community Supervision.

Mental Health Court and Recovery Court Statistics: Rebekah Provost-Emmons, Recovery Court Administrator, Office of Criminal Justice Services, Division of Substance Abuse Services.

Limited English Speaking: U.S. Census Bureau, American Community Survey, 2019.

Foster Care Services: Dave Aguzzi, Office of Independent Living, TN Department of Children's Services.

In School Youth Experiencing Homelessness: Josh Carlson, Data Management Division, TN Department of Education.

TANF 24 Months for Ending Eligibility: Lakecia Peerson, Division of Family Assistance and Child Support, TN Department of Human Services.

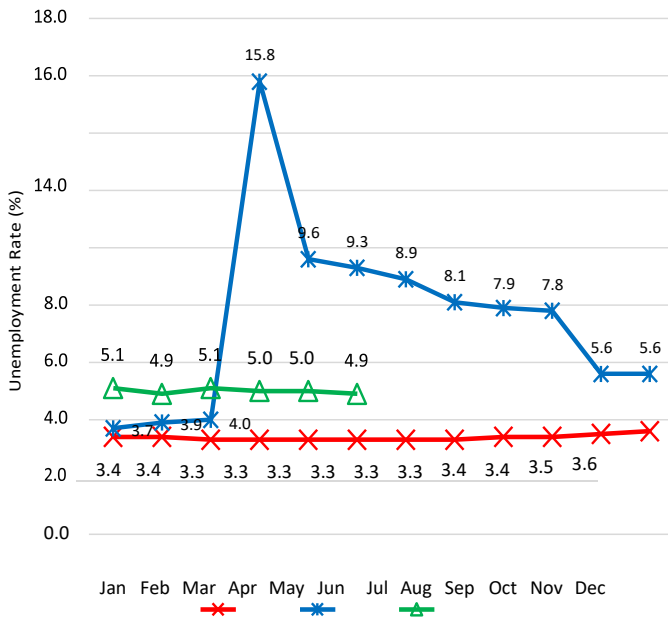
Listed above are numbers of individuals with significant barriers to employment by LWDA's, with region and state totals.

Tennessee Labor Force and Demographics



Tennessee's June 2021 seasonally adjusted unemployment rate was 4.9 percent, a slight decrease from the revised May 2021 rate of 5.0 percent. Over the past year, Tennessee's seasonally adjusted unemployment rate decreased from 9.3 percent in June 2020 to 4.9 percent in June 2021 while the national rate decreased from 11.1 percent to 5.9 percent. The annual average unemployment rate for the U.S. in 2011 was 8.9 percent and dropped to 8.1 percent in 2020, a decrease of 0.8 of a percentage point. Tennessee's annual average in 2011 was 9.1 percent and declined to 7.5 percent in 2020, a decrease of 1.6 percentage points, which is more significant than the United States.

Unemployment Rates - Tennessee



Source: TDLWD, Local Area Unemployment Statistics, July 2021

Figure 8

Unemployment Rates - US & Tennessee

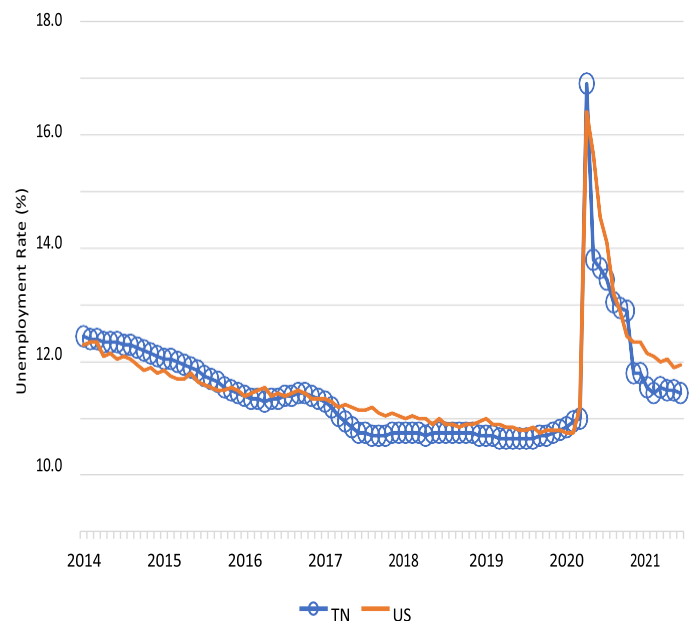


Figure 9

Table 19: U.S. & TN Annual Not Seasonally Adjusted Unemployment Rates, 2011-2020

	2011 Unemp. Rate	2012 Unemp. Rate	2013 Unemp. Rate	2014 Unemp. Rate	2015 Unemp. Rate	2016 Unemp. Rate	2017 Unemp. Rate	2018 Unemp. Rate	2019 Unemp. Rate	2020 Unemp. Rate
United States	8.9%	8.1%	7.4%	6.2%	5.3%	4.9%	4.4%	3.9%	3.7%	8.1%
Tennessee	9.1%	8.0%	7.8%	6.6%	5.6%	4.7%	3.7%	3.5%	3.4%	7.5%

Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, July 2021

West Region Employment and Unemployment

In 2020, the average unemployment rate in the West Region was 8.8 percent, which was above the state average of 7.5 percent. Of the two Metropolitan Statistical Areas in the West Region, the Memphis TN-MS-AR MSA had the highest unemployment rate at 8.8 percent in 2020. This was higher than the revised 2019 rate of 4.2 percent. The Jackson, TN MSA had an unemployment rate of 7.1 percent in 2020, up from the revised 2019 rate of 3.5 percent.

Four Micropolitan Statistical Areas are in the West Region. Dyersburg, TN (Dyer County) micropolitan statistical area had the highest unemployment rate at 8.0 percent in 2020, higher than the revised 2019 rate of 4.8 percent. Martin, TN (Weakley County) micropolitan statistical area had the lowest unemployment rate in 2020 at 5.8 percent, higher than the revised 2019 rate of 4.0 percent.

The State of Tennessee creates a monthly report of all unemployment rates by State, Region, County, LWDA, Metropolitan Statistical Area, and Micropolitan Statistical Area called the Labor Force Estimates. This report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-force-estimates.html>

The State of Tennessee also creates a monthly report that provides the nonfarm employment, long-term graphs of the unemployment, and a brief explanation for each major MSA in the Tennessee Labor Market Report. That report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-market-reports.html>

West TN Unemployment Rates by MSA, 2019 and 2020

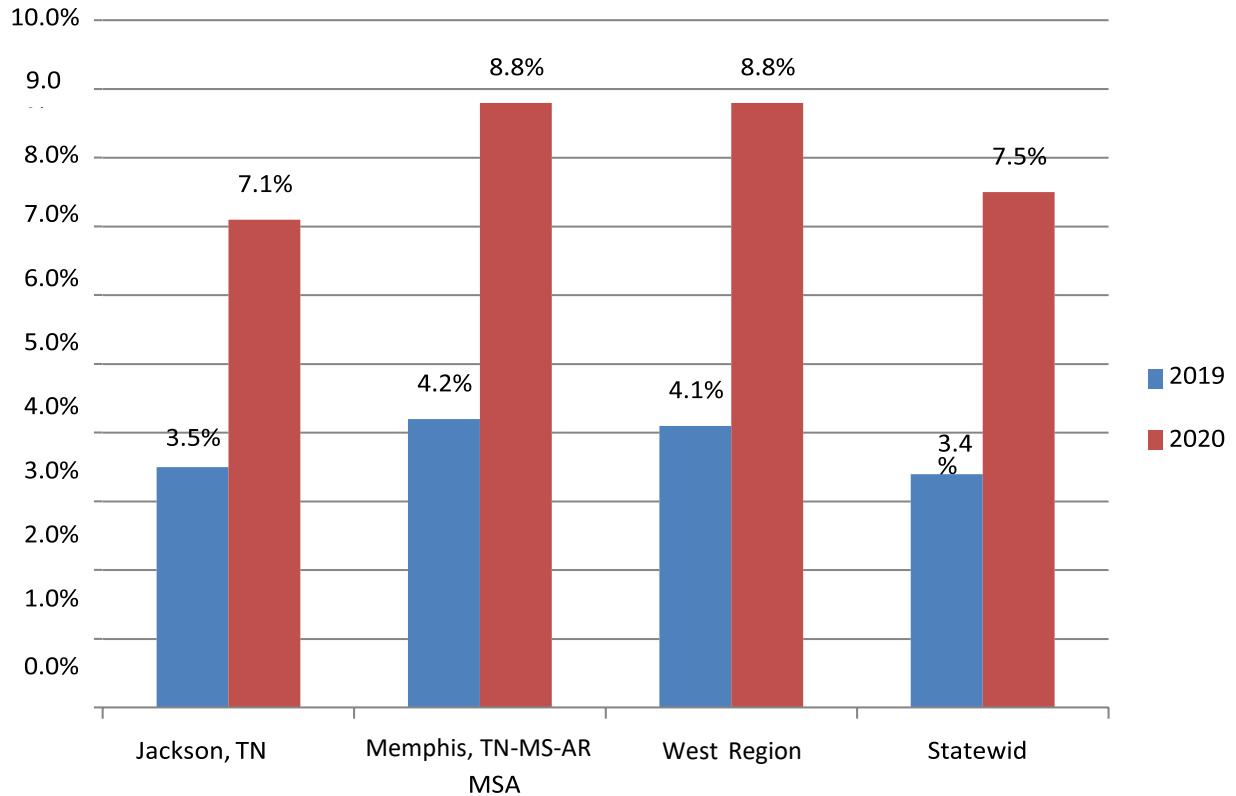


Table 20: West Region Annual Average Unemployment Rates, 2019 to 2020

Area	2020 Annual Averages				2019 Annual Averages			
	Labor Force	Employment	Unemployment Number	Unemployment %	Labor Force	Employment	Unemployment Number	Unemployment %
UNITED STATES	160,742,000	147,795,000	12,947,000	8.1%	163,539,000	157,538,000	6,001,000	3.7%
TENNESSEE	3,289,426	3,043,894	245,532	7.5%	3,329,279	3,216,916	112,363	3.4%
WEST REGION	719,663	656,438	63,225	8.8%	724,731	695,256	29,475	4.1%
Metropolitan Statistical Areas (MSAs)								
Jackson, TN MSA	64,254	59,691	4,563	7.1%	64,948	62,673	2,275	3.5%
Chester County	8,390	7,912	478	5.7%	8,596	8,303	293	3.4%
Crockett County	6,836	6,436	400	5.9%	6,975	6,734	241	3.5%
Madison	49,028	45,343	3,685	7.5%	49,376	47,635	1,741	3.5%

County								
Memphis, TN-MS-AR MSA	639,654	583,157	56,497	8.8%	643,951	617,177	26,774	4.2%
Fayette County	18,987	17,774	1,213	6.4%	19,533	18,828	705	3.6%
Shelby County	447,769	404,507	43,262	9.7%	447,655	429,816	17,839	4.0%
Tipton County	27,498	25,612	1,886	6.9%	28,281	27,191	1,090	3.9%
Arkansas Portion	21,209	19,459	1,750	8.3%	21,242	20,341	901	4.2%
Mississippi Portion	124,192	115,805	8,387	6.8%	127,239	121,000	6,239	4.9%
Micropolitan Statistical Areas(MCSAs)								
Dyersburg (Dyer Co.)	15,879	14,603	1,276	8.0%	16,413	15,619	794	4.8%
Martin (Weakley Co.)	15,456	14,554	902	5.8%	16,087	15,443	644	4.0%
Paris (Henry Co.)	13,668	12,642	1,026	7.5%	14,170	13,584	586	4.1%
Union City, TN-KY	14,163	13,176	987	7.0%	14,510	13,792	718	4.9%
Obion Co.	12,180	11,322	858	7.0%	12,476	11,870	606	4.9%
Kentucky Portion(Fulton Co.)	1,983	1,854	129	6.5%	2,035	1,923	112	5.5%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Middle Region Employment and Unemployment

In 2020, the average unemployment rate in the Middle Region was 7.1 percent, which was below the state average of 7.5 percent. Of the two Metropolitan Statistical Areas in the Middle Region, the Clarksville TN-KY MSA had the higher unemployment rate at 7.6 percent in 2020. This was higher than the revised 2019 rate of 4.2 percent. The Nashville, TN MSA had an unemployment rate of 6.9 percent in 2020, up from the revised 2019 rate of 2.6 percent.

Six Micropolitan Statistical Areas are in the Middle Region. Lewisburg, TN (Lawrence County) micropolitan statistical area had the highest unemployment rate at 9.1 percent in 2020, higher than the revised 2019 rate of 3.5 percent. Cookeville, TN (Jackson County, Overton County, and Putnam County) micropolitan statistical area had the lowest unemployment rate in 2020 at 6.7 percent, higher than the revised 2019 rate of 3.6 percent.

The State of Tennessee creates a monthly report of all unemployment rates by State, Region, County, LWDA, Metropolitan Statistical Area, and Micropolitan Statistical Area called the Labor Force Estimates. This report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-force-estimates.html>

The State of Tennessee also creates a monthly report that provides the nonfarm employment, long-term graphs of the unemployment, and a brief explanation for each major MSA in the Tennessee Labor Market Report. That report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-market-reports.html>

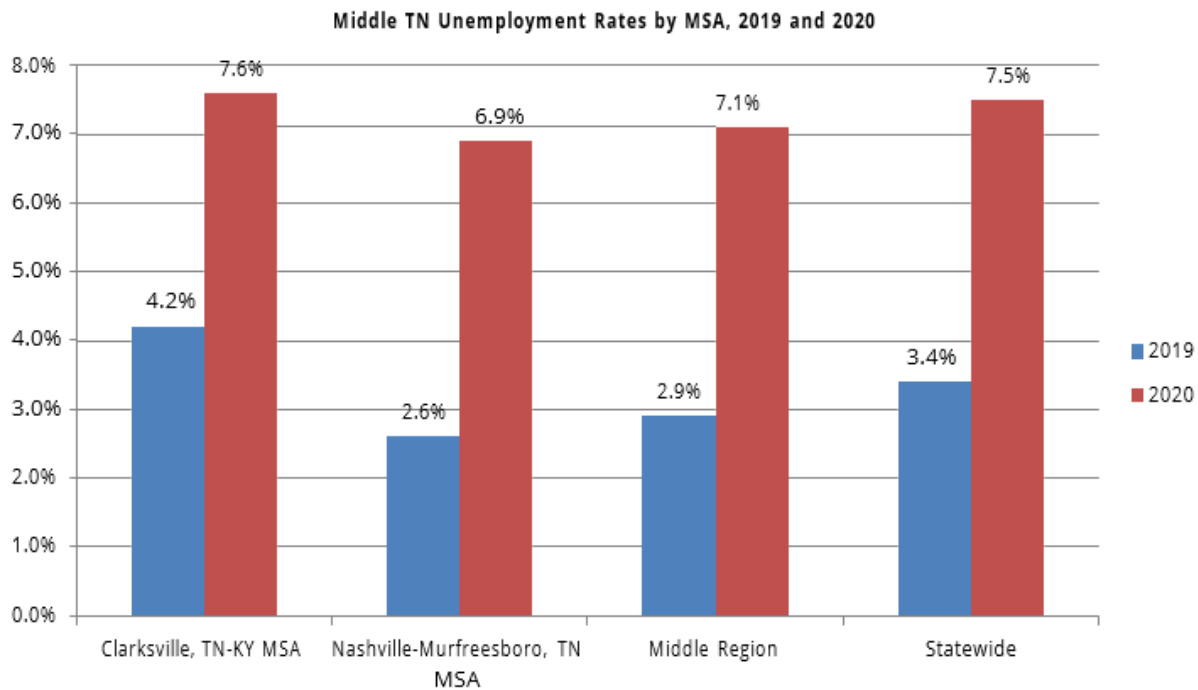


Table 21: Middle Region Annual Average Unemployment Rates, 2019 to 2020

Area	2020 Annual Averages				2019 Annual Averages			
	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent	Labor Force	Employment	Unem- ployment Number	Unem- ployment Percent
UNITED STATES	160,742,000	147,795,000	12,947,000	8.1%	163,539,000	157,538,000	6,001,000	3.7%
TENNESSEE	3,289,426	3,043,894	245,532	7.5%	3,329,279	3,216,916	112,363	3.4%
MIDDLE REGION	1,447,185	1,343,995	103,190	7.1%	1,466,858	1,423,777	43,081	2.9%
Metropolitan Statistical Areas (MSAs)								
Clarksville, TN-KYMSA	116,852	107,940	8,912	7.6%	117,019	112,161	4,858	4.2%
Montgomery County	86,234	79,666	6,568	7.6%	86,537	83,283	3,254	3.8%
Kentucky Portion	30,617	28,273	2,344	7.7%	30,482	28,878	1,604	5.3%
Nashville-Murfreesboro, TN MSA	1,070,473	996,206	74,267	6.9%	1,085,649	1,057,176	28,473	2.6%
Cannon County	6,506	6,083	423	6.5%	6,653	6,450	203	3.1%
Cheatham County	21,313	20,113	1,200	5.6%	21,882	21,308	574	2.6%
Davidson County	402,058	369,787	32,271	8.0%	402,736	392,552	10,184	2.5%
Dickson County	26,354	24,799	1,555	5.9%	27,132	26,318	814	3.0%
Hickman County	11,103	10,458	645	5.8%	11,425	11,076	349	3.1%
Macon County	11,156	10,428	728	6.5%	11,370	11,018	352	3.1%

Maury County	49,915	45,854	4,061	8.1%	50,244	48,658	1,586	3.2%
Robertson County	37,300	35,018	2,282	6.1%	38,227	37,125	1,102	2.9%
Rutherford County	184,368	171,731	12,637	6.9%	187,178	182,384	4,794	2.6%
Smith County	9,259	8,701	558	6.0%	9,503	9,218	285	3.0%
Sumner County	102,069	95,424	6,645	6.5%	104,025	101,247	2,778	2.7%
Trousdale County	5,383	5,055	328	6.1%	5,527	5,360	167	3.0%
Williamson County	126,997	120,874	6,123	4.8%	131,365	128,178	3,187	2.4%
Wilson County	76,694	71,882	4,812	6.3%	78,383	76,285	2,098	2.7%
Micropolitan Statistical Areas (MCSAs)								
Cookeville	49,398	46,097	3,301	6.7%	49,746	47,931	1,815	3.6%
Jackson Co.	4,740	4,363	377	8.0%	4,670	4,456	214	4.6%
Overton Co.	9,689	9,074	615	6.3%	9,942	9,567	375	3.8%
Putnam Co.	34,970	32,661	2,309	6.6%	35,134	33,908	1,226	3.5%
Crossville (Cumberland Co.)	22,733	20,988	1,745	7.7%	23,320	22,300	1,030	4.4%
Lawrenceburg (Lawrence Co.)	19,092	17,603	1,489	7.8%	19,195	18,410	785	4.1%
Lewisburg (Marshall Co.)	15,374	13,978	1,396	9.1%	15,766	15,211	555	3.5%
Shelbyville (Bedford Co.)	20,956	19,293	1,663	7.9%	21,082	20,297	785	3.7%
Tullahoma-Manchester	49,004	45,249	3,755	7.7%	49,506	47,873	1,633	3.3%
Coffee Co.	25,612	23,620	1,992	7.8%	25,665	24,813	852	3.3%
Franklin Co.	19,782	18,213	1,569	7.9%	20,218	19,542	676	3.3%
Moore Co.	3,610	3,416	194	5.4%	3,623	3,518	105	2.9%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

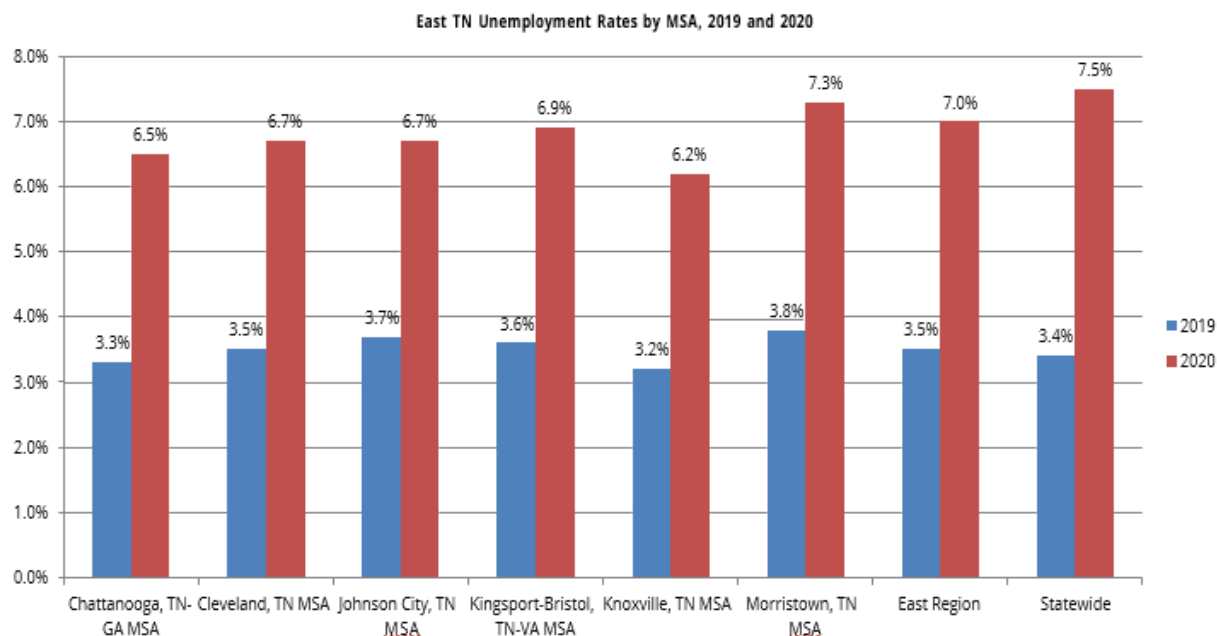
East Region Employment and Unemployment

In 2020, the average unemployment rate in the East Region was 7.0 percent, which was below the state average of 7.5 percent. Of the six Metropolitan Statistical Areas in the East Region, the Morristown TN MSA had the highest unemployment rate at 7.3 percent in 2020. This was higher than the revised 2019 rate of 3.8 percent. The Knoxville, TN MSA had the lowest unemployment rate of 6.2 percent in 2020, up from the revised 2019 rate of 3.2 percent.

Five Micropolitan Statistical Areas are in the East Region. Newport, TN (Cocke County) micropolitan statistical area had the highest unemployment rate at 10.2 percent in 2020, up from the revised 2019 rate of 4.5 percent. Athens, TN (McMinn County) micropolitan statistical area had the lowest unemployment rate in 2020 at 7.8 percent, higher than the revised 2019 rate of 3.8 percent.

The State of Tennessee creates a monthly report of all unemployment rates by State, Region, County, LWDA, Metropolitan Statistical Area, and Micropolitan Statistical Area called the Labor Force Estimates. This report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-force-estimates.html>

The State of Tennessee also creates a monthly report that provides the nonfarm employment, historical graphs of the unemployment, and a brief explanation for each major MSA in the Tennessee Labor Market Report. That report can be found on the State's website at: <https://www.tn.gov/workforce/general-resources/major-publications0/major-publications-redirect/public-reports-redirect/labor-market-reports.html>



Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Table 22: East Region Annual Average Unemployment Rates, 2019 to 2020

Area	2020 Annual Averages				2019 Annual Averages			
	Labor Force	Employment	Unemployment Number	Unemployment Percent	Labor Force	Employment	Unemployment Number	Unemployment Percent
UNITED STATES	160,742,000	147,795,000	12,947,000	8.1%	163,539,000	157,538,000	6,001,000	3.7%
TENNESSEE	3,289,426	3,043,894	245,532	7.5%	3,329,279	3,216,916	112,363	3.4%
EAST REGION	1,122,581	1,043,464	79,117	7.0%	1,137,700	1,0797,887	39,813	3.5%
Metropolitan Statistical Areas (MSAs)								
Chattanooga, TN-GAMSA	271,915	254,248	17,667	6.5%	276,963	267,743	9,220	3.3%
Hamilton County	182,352	169,337	13,015	7.1%	185,057	179,097	5,960	3.2%
Marion County	12,344	11,409	935	7.6%	12,596	12,061	535	4.2%
Sequatchie	6,146	5,664	482	7.8%	6,240	5,979	261	4.2%

County								
Georgia Portion	71,073	67,838	3,235	4.6%	73,070	70,606	2,464	3.4%
Cleveland, TN MSA	60,107	56,095	4,012	6.7%	59,872	57,777	2,095	3.5%
Bradley County	52,651	49,151	3,500	6.6%	52,426	50,628	1,798	3.4%
Polk County	7,455	6,943	512	6.9%	7,446	7,149	297	4.0%
Johnson City, TN MSA	90,522	84,426	6,096	6.7%	92,168	88,764	3,404	3.7%
Carter County	23,655	22,001	1,654	7.0%	24,090	23,119	971	4.0%
Unicoi County	7,083	6,497	586	8.3%	7,040	6,690	350	4.9%
Washington County	59,783	55,928	3,855	6.4%	60,905	58,827	2,078	3.4%
Kingsport-Bristol, TN-VA MSA	135,045	125,723	9,322	6.9%	137,592	132,626	4,966	3.6%
Hawkins County	23,468	21,663	1,805	7.7%	23,903	22,924	979	4.1%
Sullivan County	69,352	64,370	4,982	7.2%	70,708	68,109	2,599	3.7%
Virginia Portion	42,226	39,690	2,536	6.0%	42,981	41,593	1,388	3.2%
Knoxville, TN MSA	426,561	399,982	26,579	6.2%	431,375	417,595	13,780	3.2%
Anderson County	34,360	32,049	2,311	6.7%	34,695	33,468	1,227	3.5%
Blount County	63,505	59,440	4,065	6.4%	64,072	62,043	2,029	3.2%
Campbell County	14,717	13,597	1,120	7.6%	14,869	14,190	679	4.6%
Grainger County	9,480	8,793	687	7.2%	9,550	9,165	385	4.0%
Knox County	242,643	228,282	14,361	5.9%	245,480	238,396	7,084	2.9%
Loudon County	23,572	22,072	1,500	6.4%	23,819	23,017	802	3.4%
Morgan County	7,654	7,153	501	6.5%	7,786	7,467	319	4.1%
Roane County	23,021	21,508	1,513	6.6%	23,402	22,457	945	4.0%
Union County	7,610	7,088	522	6.9%	7,703	7,392	311	4.0%
Morristown, TN MSA	52,717	48,880	3,837	7.3%	52,865	50,875	1,990	3.8%
Hamblen County	28,020	26,027	1,993	7.1%	28,171	27,090	1,081	3.8%
Jefferson County	24,697	22,853	1,844	7.5%	24,694	23,785	909	3.7%
Micropolitan Statistical Areas (MCSAs)								
Athens (McMinn Co.)	23,393	21,579	1,814	7.8%	23,572	22,683	889	3.8%
Dayton (Rhea Co.)	13,011	11,732	1,279	9.8%	13,354	12,599	755	5.7%
Greeneville (Greene Co.)	28,769	26,372	2,397	8.3%	29,828	28,451	1,377	4.6%
Newport (Cocke Co.)	14,713	13,205	1,508	10.2%	15,024	14,343	681	4.5%
Sevierville (Sevier Co.)	53,721	48,540	5,181	9.6%	54,962	53,169	1,793	3.3%

Source: TN Department of Labor and Workforce Development, WIR²ED Division, Local Area Unemployment Statistics

Tennessee

Economic & Workforce Analysis

PY 2022-2023

Workforce Analysis

The Unified or Combined State Plan must include an analysis of the current workforce, including individuals with barriers to employment, as defined in section 3 of WIOA⁴. This population must include individuals with disabilities among other groups⁵ in the State and across regions identified by the State. This includes—

(i) Employment and Unemployment. Provide an analysis of current employment and unemployment data, including labor force participation rates, and trends in the State.

(ii) Labor Market Trends. Provide an analysis of key labor market trends, including across existing industries and occupations.

(iii) Education and Skill Levels of the Workforce. Provide an analysis of the educational and skill levels of the workforce.

(iv) Skill Gaps. Describe apparent 'skill gaps'

Labor Market Trends – Occupations

West Region

The transportation and material moving occupational group was the largest in the West Region in May 2020, according to the annual Occupational Employment Survey, which provides data on all industries except agriculture, the self-employed, and a few not covered by Tennessee's unemployment insurance system. Employment was 14.8 percent of total employment in the region and exceeded 100,000 workers, with average entry level wages about at the level of all occupations in the Region (\$22,937). Salaries of experienced workers in the group averaged \$45,157.

Other major occupational groups employees with greater than five percent of employment in the Region included:

- Office and Administrative Support workers- 94,260 (13.7%)
- Sales and Related workers- 58,860 (8.6%)
- Food Preparation and Serving workers– 53,610 (7.8%)
- Production workers -56,270 (8.2%)
- Healthcare Practitioners and Technical workers -49,870 (7.3%)
- Management workers-40,480 (5.9%)
- Education, Training, and Library workers– 36,100 (5.2%)

Compared to state occupational employment, the West Region has a greater percentage of transportation and material moving employees (14.8 percent vs. 11.4 percent) and smaller percentages of food preparation and serving and sales and related employees and a slightly smaller proportion of production employees (8.6 v. 8.7 percent).

How different are the salaries for the employees in these occupational groups in the West Region compared to the state? For most occupational groups listed above, the West Region median salaries are lower with a few exceptions such as the computer and mathematical occupations. Business and financial occupations and healthcare support paying more in the West compared to the State median wages.

Table 23: Occupational Employment and Wage Rates (OEWS) for All Major Groups in the West Region in 2020

Occupation	Occupation Code	Employment	Entry Level Salary	Median Salary	Experienced Salary
Total All Occupations	000000	688,640	\$22,462	\$37,128	\$58,600
Architecture and Engineering	170000	7,830	\$43,652	\$70,814	\$89,275
Arts, Design, Entertainment, Sports, and Media	270000	5,070	\$24,133	\$41,381	\$59,294
Building and Grounds Cleaning and Maintenance	370000	19,490	\$19,222	\$25,213	\$32,479
Business and Financial Operations	130000	26,630	\$37,401	\$60,072	\$79,444
Community and Social Services	210000	9,170	\$30,031	\$44,881	\$57,097
Computer and Mathematical	150000	11,050	\$43,192	\$69,663	\$89,174
Construction and Extraction	470000	20,620	\$28,823	\$40,113	\$50,916
Education, Training, and Library	250000	36,100	\$26,571	\$48,165	\$63,765
Farming, Fishing, and Forestry	450000	1,410	\$21,784	\$30,077	\$39,934
Food Preparation and Serving Related	35000	53,610	\$17,827	\$20,310	\$25,596
Healthcare Practitioners and Technical	290000	49,870	\$37,056	\$58,497	\$85,745
Installation, Maintenance, and Repair	490000	28,000	\$30,444	\$45,344	\$57,422
Legal	230000	3,550	\$33,226	\$57,204	\$99,349
Life, Physical, and Social Science	190000	4,560	\$38,080	\$62,232	\$99,126
Management	110000	40,480	\$48,734	\$88,444	\$130,792
Office and Administrative Support	430000	94,260	\$25,307	\$36,329	\$45,988
Personal Care and Service	390000	12,040	\$18,006	\$23,184	\$31,149
Production	510000	56,270	\$24,361	\$35,872	\$45,619
Protective Service	330000	22,770	\$22,312	\$36,266	\$50,494
Sales and Related	410000	58,860	\$19,738	\$27,492	\$50,929
Transportation and Material Moving	530000	101,620	\$22,937	\$33,335	\$45,157

Source: TDLWD, Div Emp Sec, LMI

The median wage is estimated 50th percentile: 50 percent of workers in occupations earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

Middle Region

The office and administrative support occupational group was the largest in the Middle Region in May 2020, according to the annual Occupational Employment Survey, which provides data on all industries except agriculture, the self-employed, and a few not covered by Tennessee's unemployment insurance system. Employment was 14 percent of total employment in the region and exceeded 171,640 workers, with average entry level wages about \$2,340 more than the average for all occupations in the Region (\$23,455). Salaries of experienced workers in the group averaged \$47,219.

Other employees with greater than five percent of occupational employment in the Region included:

- Transportation and Material Moving workers— 128, 190 (10.5%)
- Food Preparation and Serving workers— 105,110 (8.6.%)
- Sales and Related workers- 111,920 (9.2%)
- Production workers -95,670 (7.9%)
- Management workers-85,250- (7.0%)
- Healthcare Practitioners and Technical workers -79,770 (6.5%)
- Business and Financial Operations workers- 70,690 (5.8%)
- Education, Training, and Library workers—61,200 (5.0%)

Compared to state occupational employment, the Middle Region has a smaller percentage of transportation and material moving employees (10.5 vs. 11.2 percent) and larger proportions of management (7.0 vs. 6.3 percent) and business and financial operations employees (5.8 vs. 4.8 percent).

How different are the salaries for the employees in these occupational groups in the Middle Region compared to the state? The median annual salary for the Middle Region was 104 percent of the state median pay; that is, about four percent or \$1,500 higher per year. Several occupational groups in the Middle Region had higher median salaries than the state, notably Architecture and Engineering occupations (\$3,015 greater), and Life, Physical, and Social occupations (\$2,600 greater).

Table 24: Occupational Employment and Wage Rates (OEWS) for All Major Groups in the Middle Region in 2020

Occupation	Occupation Code	Employment	Entry Level Salary	Median Salary	Experienced Salary
Total All Occupations	000000	1,218,170	\$23,455	\$38,964	\$62,859
Architecture and Engineering	170000	15,180	\$43,891	\$69,998	\$89,250
Arts, Design, Entertainment, Sports, and Media	270000	16,380	\$28,225	\$49,016	\$73,892
Building and Grounds Cleaning and Maintenance	370000	29,870	\$20,247	\$27,256	\$34,901
Business and Financial Operations	130000	70,690	\$39,743	\$60,616	\$79,477
Community and Social Services	210000	15,270	\$29,793	\$43,326	\$53,656
Computer and Mathematical	150000	33,740	\$44,434	\$74,049	\$95,242
Construction and Extraction	470000	43,810	\$30,364	\$41,135	\$52,397
Education, Training, and Library	250000	61,200	\$28,123	\$48,118	\$63,755
Farming, Fishing, and Forestry	450000	1,980	\$22,132	\$28,263	\$35,692
Food Preparation and Serving Related	350000	105,110	\$17,854	\$20,693	\$26,459
Healthcare Practitioners and Technical	290000	79,770	\$37,112	\$60,388	\$94,585
Installation, Maintenance, and Repair	490000	48,120	\$30,321	\$45,176	\$57,081
Legal	230000	8,310	\$40,931	\$71,837	\$118,766
Life, Physical, and Social Science	190000	8,920	\$38,260	\$59,526	\$82,188
Management	110000	85,250	\$52,303	\$92,831	\$137,004
Office and Administrative Support	430000	171,640	\$25,794	\$37,311	\$47,219
Personal Care and Service	390000	21,700	\$19,093	\$24,504	\$33,823
Production	510000	95,670	\$25,757	\$36,219	\$46,209
Protective Service	330000	27,710	\$23,062	\$37,489	\$51,445
Sales and Related	410000	111,920	\$20,973	\$30,349	\$52,658
Transportation and Material Moving	530000	128,190	\$23,529	\$32,210	\$42,054

Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

The median wage is estimated 50th percentile: 50 percent of workers in occupations earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

East Region

The office and administrative support occupational group was the largest in the East Region in May 2020, according to the annual Occupational Employment Survey, which provides data on all industries except agriculture, the self-employed, and a few not covered by Tennessee's unemployment insurance system. Employment was 14.5 percent of total employment in the region and exceeded 141,500 workers, with average entry level wages about \$2,000 more than the average for all occupations in the Region (\$23,990). Salaries of experienced workers in the group averaged \$43,344.

Other employees with greater than five percent of occupational employment in the Region included:

- Food Preparation and Serving workers— 92,750 (9.5%)
- Production workers -96,390 (9.9%)
- Sales and Related workers- 89,860 (9.2%)
- Transportation and Material Moving - 95,210 (9.4%)
- Healthcare Practitioners and Technical workers -66,460 (6.8%)
- Management workers-56,690 (5.8%)
- Education, Training, and Library workers— 49,750 (5.1%)

Compared to state occupational employment, the East Region has a lower percentage of transportation and material moving employees (9.8 percent vs. 11.4 percent) and smaller percentages of food preparation and serving and sales and related employees and a slightly higher proportion of production employees (9.9 v. 8.6 percent).

How different are the salaries for the employees in these occupational groups in the East Region compared to the state? The median annual salary for the East Region is 94 percent of the state median pay. Several occupational groups in the East have higher median salaries than the state, notably management (\$6,000 higher than the state median), office and administrative occupations (\$2,300 greater), sales and related (\$2,137 greater), and arts, design, entertainment and sports occupations (\$4,000 greater). This last category may be lower due to the lack of professional sports teams in the East Region.

Table 25: Occupational Employment and Wage Rates (OEWS) for All Major Groups in the EastRegion in 2020

Occupation	Occupation Code	Employment	Entry Level Salary	Median Salary	Experienced Salary
Total All Occupations	000000	973,270	\$21,915	\$35,525	\$57,101
Architecture andEngineering	170000	16,510	\$45,789	\$77,160	\$104,217
Arts, Design, Entertainment, Sports, and Media	270000	8,870	\$24,129	\$41,044	\$63,131
Building and Grounds Cleaningand Maintenance	370000	29,050	\$19,026	\$24,408	\$30,688
Business andFinancial Operations	130000	39,210	\$36,788	\$58,426	\$81,007
Community andSocial Services	210000	12,330	\$28,319	\$41,239	\$50,623
Computer and Mathematical	150000	17,990	\$42,526	\$71,348	\$91,826
Construction andExtraction	470000	34,010	\$29,021	\$39,850	\$51,000
Education, Training, and Library	250000	49,750	\$24,751	\$47,886	\$62,518
Farming, Fishing,and Forestry	450000	1,160	\$21,333	\$33,118	\$41,725
Food Preparationand Serving Related	35000	92,750	\$17,789	\$20,120	\$24,872
Healthcare Practitioners and Technical	290000	66,460	\$35,135	\$54,679	\$86,075
Installation, Maintenance, andRepair	490000	41,270	\$29,205	\$43,486	\$55,475
Legal	230000	4,880	\$38,109	\$69,597	\$106,646
Life, Physical, andSocial Science	190000	8,470	\$40,691	\$64,956	\$97,576
Management	110000	56,690	\$44,039	\$82,945	\$126,061
Office and Administrative Support	430000	141,540	\$23,990	\$33,630	\$43,344
Personal Care andService	390000	16,850	\$18,140	\$23,115	\$30,723
Production	510000	96,390	\$25,278	\$35,182	\$45,353
Protective Service	330000	18,660	\$25,178	\$38,101	\$50,571
Sales and Related	410000	89,860	\$19,680	\$26,296	\$44,579
Transportationand Material Moving	530000	95,210	\$21,750	\$30,791	\$41,095

Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

The median wage is estimated 50th percentile: 50 percent of workers in occupations earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

Table 26: State Employment Significantly Increased from Nov 2020 to Nov 2021

Industry Title	TN Nov.2021 Employment	TN Nov. 2020 Employment	Over the Year Employment Change
Total Nonfarm	3,151,400	3,061,000	90,400
Total Private	2,704,100	2,618,000	86,100
Goods Producing	488,000	477,000	11,000
Service-Providing	2,663,400	2,584,000	79,400
Private Service Providing	2,216,100	2,141,000	75,100
Natural Resources and Mining	4,400	4,100	300
Natural Resources and Mining and Construction	136,000	134,300	1,700
Construction	131,600	130,200	1,400
Manufacturing	352,000	342,700	9,300
Durable Goods	227,500	217,600	9,900
Non-Durable Goods	124,500	125,100	-600
Trade, Transportation, and Utilities	667,900	648,900	19,000
Wholesale Trade	121,800	115,300	6,500
Retail Trade	342,100	335,900	6,200
Transportation Warehousing and Utilities	204,000	197,700	6,300
Information	46,000	44,100	1,900
Finance	176,000	170,800	5,200
Professional and Business Services	452,800	432,300	20,500
Educational and Health Services	428,500	434,600	-6,100
Leisure and Hospitality	319,300	291,600	27,700
Other Services	125,600	118,700	6,900
Government	447,300	443,000	4,300
Source: CES Data, TDLWD, WIRED Division			

(CES: Seasonally non-adjusted)

Current industry employment in the state has increased more than 90,000 employment from November of 2020 to November of 2021, nearly all of that in the private sector. The current employment level surpasses that of February 2020 (3,134,500).(check if seasonally non-adjusted) The industries gaining the most jobs included leisure and hospitality (which had lost significant employment since April of 2020); professional and business services; trade, transportation, and utilities; and manufacturing (especially durable goods). The only industries losing employment over the year were education and health services (likely due to staffing shortages) and durable goods manufacturing. The growth in employment across most industries is providing significant opportunity for workers to re-enter the labor force; if the pandemic resides and the labor force participation rate increases, the economic recovery should continue to grow.

Other State Labor Force Trends

Despite the pandemic downturn, there were positive trends in the economy in 2019-2020. The total number of establishments increased by 3.8 percent and total wages increased by 2.5 percent. Industry annual average wages increased by 6.7 percent; the state median wage increased by 4.3 percent; and the average hourly pay for production workers increased from \$19.76 to \$20.33. The number of projected job openings in the 2018-2028 decade was expected to be greater than in the previous decade. At the same time, the labor force from 2019 to 2020 decreased by 1.2%.

West Region Labor Force Trends

Like the state, the West Region experienced some positive trends in 2019-2020. The average number of establishments increased by 2.3 percent; total wages increased by 2.4 percent; annual average industry wages increased by 2 percent; median wages increased by 4.2 percent; 18 counties increased their annual industry wages; and projected job openings were expected to be greater through 2028 than in the last decade. During this time, however, the labor force declined by .7 percent, as in June 2020 there were 2.83 people for every advertised job opening.

Currently, in January 2022, there are 1.03 candidates for every job opening on jobs4tn.gov (32,055 candidates and 31,215 openings), indicating a potential labor shortage.

Middle Region Labor Force Trends

Although employment was reduced, the Middle Region did experience positive trends in 2019-2020. The average number of establishments increased by 4.6 percent, total wages increased by 1.5 percent, and the median occupational wage increased by 4.2 percent. Average annual industry wages increased by 4.2 percent. The number of annual average job openings projected for the next ten years is greater than for the previous decade.

Currently, in January 2022, there are 0.52 candidates for every job opening on jobs4tn.gov (34,754 candidates for 67,400 job openings), indicating a labor shortage.

East Region Labor Force Trends

Regional employment decreased five percent from 2019 to 2020, but there were some positive trends. The average number of establishments increased by more than 3 percent; total wages increased by 2.8 percent; and average annual industry wages increased by 4.6 percent. Median occupational wages also increased by 4.6 percent.

Currently, in January 2022, there are 0.71 candidates for every job opening on jobs4tn.gov (32,496 candidates for 45,615 job openings), indicating a labor shortage.

Tennessee

Economic & Workforce Analysis

PY 2022-2023

Workforce Analysis

The Unified or Combined State Plan must include an analysis of the current workforce, including individuals with barriers to employment, as defined in section 3 of WIOA⁴. This population must include individuals with disabilities among other groups⁵ in the State and across regions identified by the State. This includes—

(i) Employment and Unemployment. Provide an analysis of current employment and unemployment data, including labor force participation rates, and trends in the State.

(ii) Labor Market Trends. Provide an analysis of key labor market trends, including across existing industries and occupations.

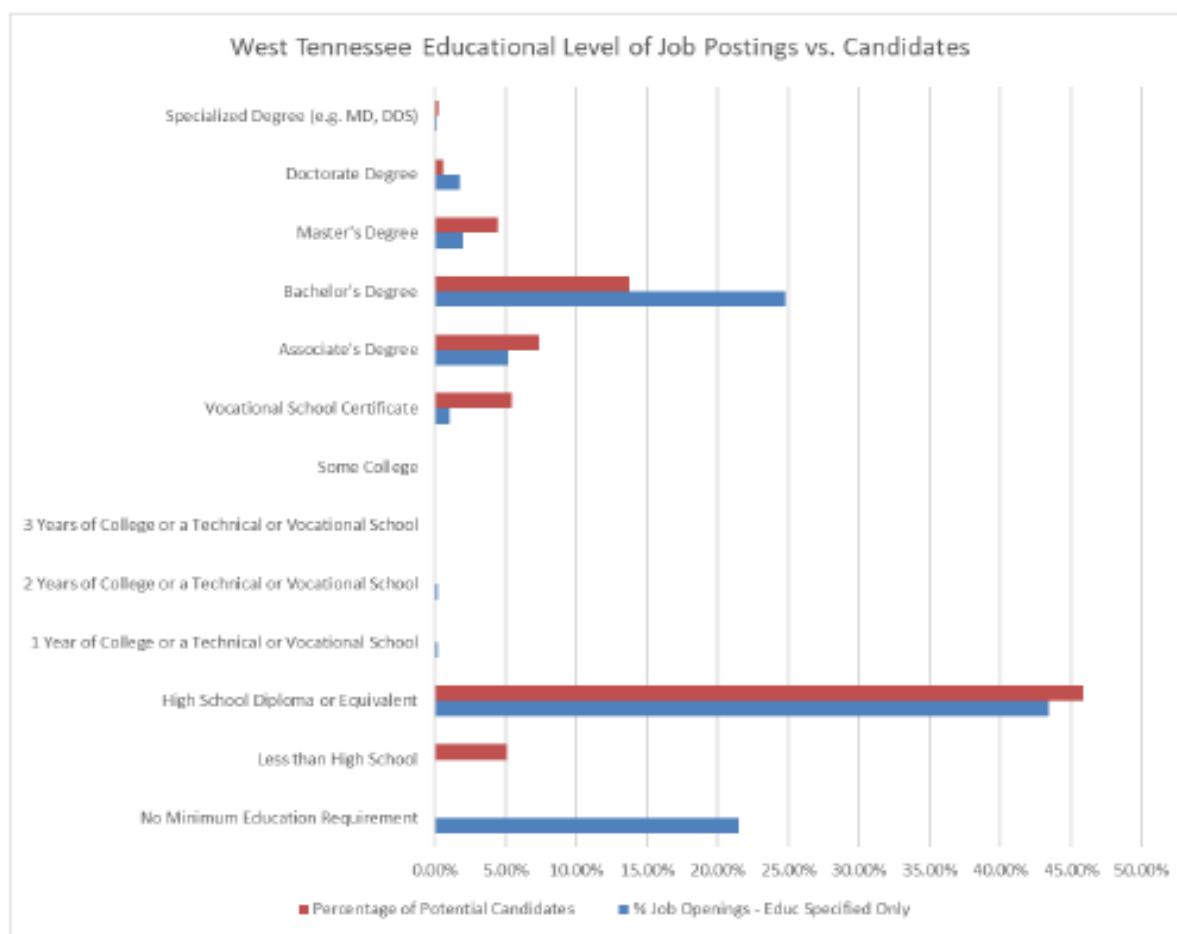
(iii) Education and Skill Levels of the Workforce. Provide an analysis of the educational and skill levels of the workforce.

(iv) Skill Gaps. Describe apparent ‘skill gaps’

Education and Skill Levels of the Workforce

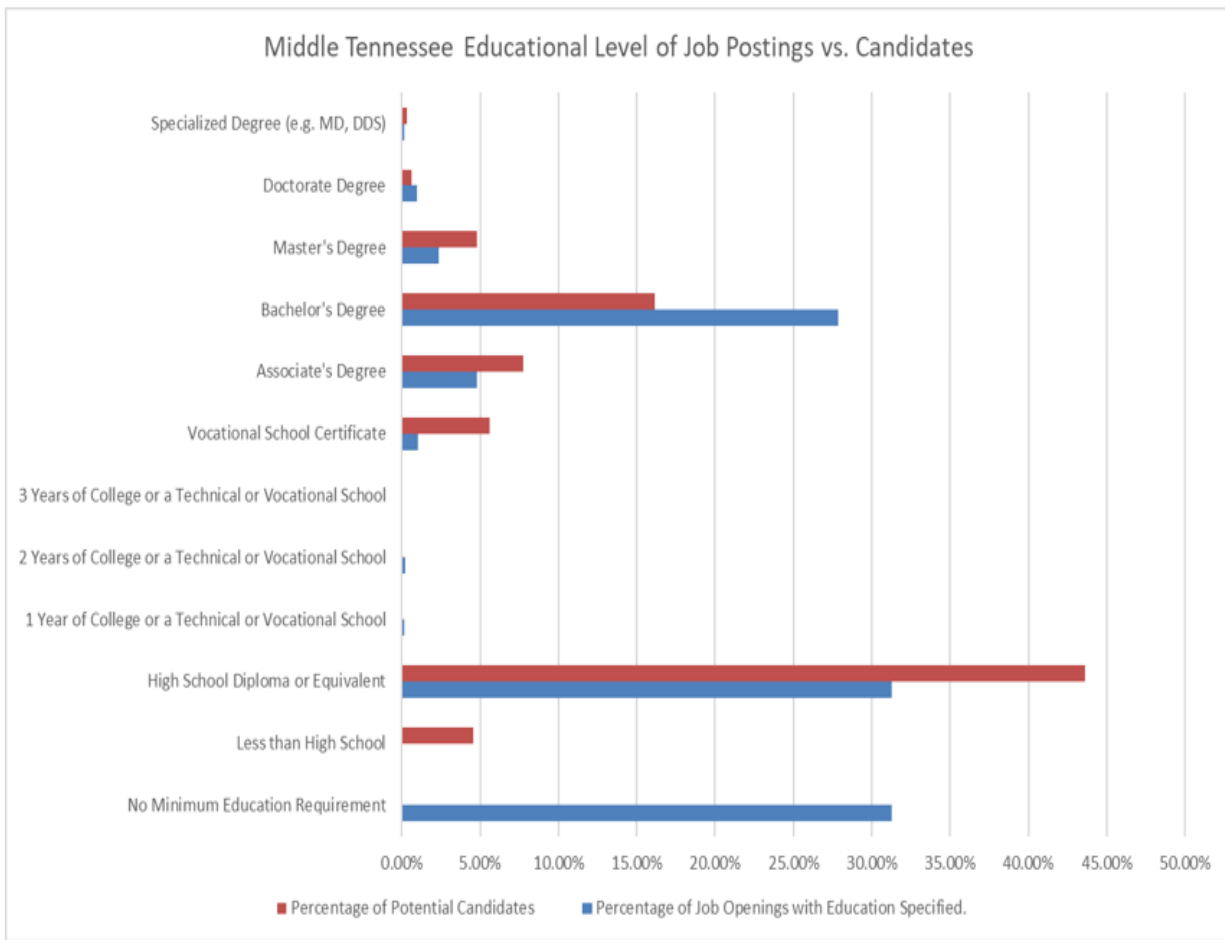
Comparison of the Educational Level of Job Postings Vs Candidates

Using job postings from November 2021 in jobs4tn.gov, regional graphs were created showing the educational distribution of candidates with active resumes in the system vs. the educational requirements in the job postings. The difficulty with this analysis is that many job postings do not indicate the level of education required for the job. This analysis compared the education levels in jobs that included them with the education levels of the candidates.



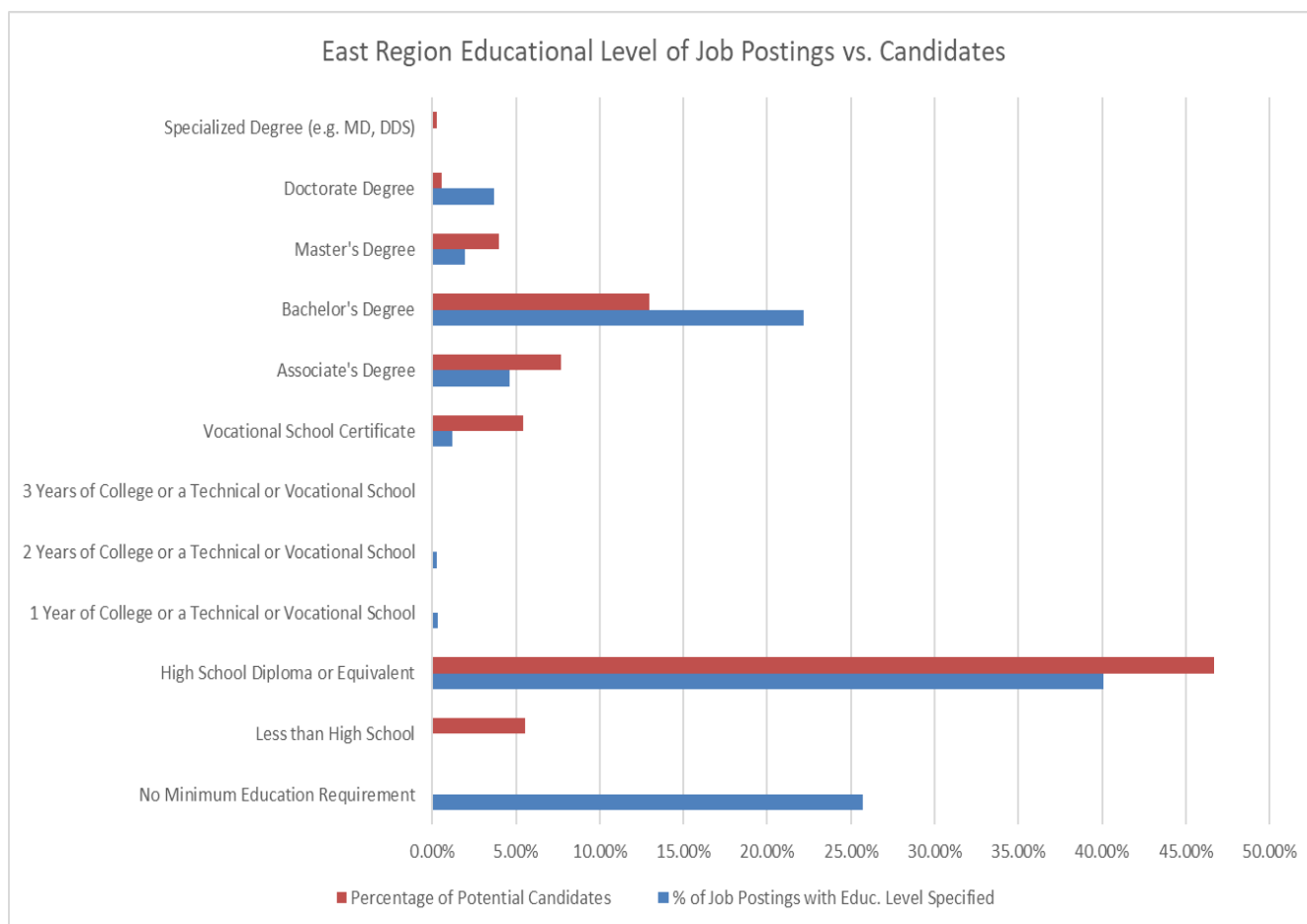
West Region: More candidates had master's, associate's, and vocational school certificates than were found in job postings. However, about 25 percent of job postings required a bachelor's degree, compared to about 14 percent of candidates who had one. About 46 percent of candidates had a high school degree only; jobs requiring high school only were slightly fewer, but many jobs did not list minimum educational requirements. About five percent of candidates had less than a high school diploma.

Middle Region: More candidates than job listings had master's and associate degrees and vocational certificates. About 27 percent of jobs required a bachelor's degree, which compared to about 13 percent of the candidates. About 46 percent of candidates had only a high school degree, compared to about 43 percent of jobs requesting them, but many jobs did not specify their educational requirements. Five percent of candidates had no high school degree.



East Region: This region had a higher percent of jobs requiring a doctoral degree, likely due to the federal requirement that Oak Ridge National Laboratory post their job openings. Like the other regions, candidates had more master’s and associate’s degrees than requested in job postings. About 23 percent of jobs required a bachelor’s degree; only about 13 percent of jobseekers had one. About 40 percent of job postings requested a high school degree; about 46 percent of candidates had one. Again, about 6 percent of candidates had no high school degree.

In summary, for the jobs posted online which listed educational requirements, fewer candidates had bachelor’s degrees than requested. About half of candidates had a high school degree only, and about 5 percent had no high school degree.



Educational Attainment by Race (age 25 and up): Tables presenting this information are shown earlier in the B section. The latest data available is for 2018. The most recent census data is not available, and the 2019 data was withdrawn from the census site. The Middle Region saw the highest educational attainment for all races, with 30.2 percent of Whites, 25.1 percent of Blacks, and 16.1 percent of Hispanics achieving a bachelor's degree or above. Concerning those whose highest degree was high school or the equivalent, Blacks led with 62.4 percent, followed by Whites with 58.5 percent and Hispanics with 50 percent.

The West Region had the lowest achievement for Hispanics, with 43.5 having a high school degree only and only 13 percent a bachelor's degree or above. In contrast, Whites with a high school degree only were 59.5 percent, and Blacks 67 percent. 29.1 percent of Whites and 17.3 percent of Blacks had a bachelor's degree or higher. In the East Region, Blacks again had the highest percent only achieving a high school degree (68.2 percent) with Whites at 62.2 percent; 44.5 percent of Hispanics had a high school degree only. The East Region had the lowest percent of Whites achieving a four-year degree or more (24.2 percent); similarly for Blacks, with 16.3 achieving at this level. However, 15.2 percent of the Hispanic population in the East Region earned a bachelor's degree or higher, a greater percentage than in the West Region. The White-Black gap in college attainment was lowest in the Middle Region, always at least 5 percent.

Tennessee

Economic & Workforce Analysis

PY 2022-2023

Workforce Analysis

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(iii) Education and Skill Levels of the Workforce. Provide an analysis of the educational and skill levels of the workforce.

(iv) Skill Gaps. Describe apparent ‘skill gaps’

Skill Gaps

The table below from jobs4tn.gov shows, for January 19, the candidates with active resumes in Tennessee compared to the job openings listed on the system, by occupation group. Compared to the jobs being posted, there are groups with significantly fewer candidates than openings. The groups with the biggest gaps (greater than 1,500 and pay above minimum wage) are healthcare practitioners and technical (21,992), management (4,754), computer and mathematical (3,113), and architecture and engineering (1,951). Sales, healthcare support, and business and financial had gaps of more than 1,200. Individual occupations with many more job openings than candidates include RNs, LPNs, and heavy and tractor-trailer truck drivers.

Area Profile for Tennessee

The table below shows the distribution number of job openings advertised online, as well as potential candidates in the workforce system in Tennessee by occupation group on January 19, 2022 (Jobs De-duplication Level 2) Opens in a new browser window.

Table 27: Jobs and Candidates by Occupation Group Table

Rank	Occupation Group	Job Openings	Candidates
1	Healthcare Practitioners and Technical Occupations	23,608	1,616
2	Management Occupations	11,652	6,898
3	Office and Administrative Support Occupations	7,898	13,873
4	Sales and Related Occupations	7,697	6,224
5	Transportation and Material Moving Occupations	6,891	6,742
6	Food Preparation and Serving Related Occupations	6,252	4,463
7	Production Occupations	5,183	7,479
8	Computer and Mathematical Occupations	4,785	1,672
9	Healthcare Support Occupations	3,843	2,567
10	Business and Financial Operations Occupations	3,720	2,453
11	Installation, Maintenance, and Repair Occupations	3,427	2,459
12	Architecture and Engineering Occupations	3,253	1,312
13	Personal Care and Service Occupations	2,063	1,997

14	Building & Grounds Cleaning & Maintenance Occupations	2,008	2,521
15	Education, Training, and Library Occupations	1,891	1,156
16	Arts, Design, Entertainment, Sports, and Media Occupations	1,816	1,627
17	Construction and Extraction Occupations	1,509	2,956
18	Protective Service Occupations	1,206	836
19	Life, Physical, and Social Science Occupations	1,116	554
20	Community and Social Services Occupations	1,026	906
21	Farming, Fishing, and Forestry Occupations	264	229
22	Legal Occupations	210	270
23	Military Specific Occupations	63	53
24	Total other occupations	42,849	0

Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

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Looking at similar tables of job openings and candidates, there are notable differences in supply and demand compared to the state.

West Region Skill Gaps

Table 28: Top Occupational Groups in West Region

Rank	Occupation Group	Job Openings	Candidates
1	Healthcare Practitioners and Technical Occupations	5,086	756
2	Computer and Mathematical	1,104	773

Of all the occupational groups, the West Region only had two with more job openings than candidates on January 19. There was a gap of 4,330 between the number of job openings and candidates for healthcare practitioners and technical occupations, and a gap of 331 between the number of computer and mathematical job openings and candidates. There were especially large numbers of openings for registered nurses and LPNs, as well as heavy and tractor-trailed truck drivers. However, there were three occupational groups with significant surpluses of candidates over job postings: office and

administrative support (4,426); production workers (1,919), and healthcare support (520). These may need opportunities for retraining.

Middle Region Skill Gaps

Table 29: Top Occupational Groups in Middle Region

Rank	Occupation Group	Job Openings	Candidates
1	Healthcare Practitioners and Technical Occupations	10,291	793
2	Management Occupations	6,035	4,169
3	Computer and Mathematical	2,723	1,037
4	Business and Finance	2,222	1,422
5	Architecture and Engineering	1,497	735
6	Healthcare Support	1,610	1,185
7	Education, Training, and Library	867	598

Seven occupational groups in the Middle Region are experiencing shortages of skilled personnel. The gap between healthcare practitioners' jobs and candidates is 9,498; computer and mathematical jobs are short by 1,686 candidates; and business and finance by 800. There were no occupational groups with significant surplus candidates in the Middle Region.

East Region Skill Gaps

Table 30: Top Occupational Groups in East Region

Rank	Occupation Group	Job Openings	Candidates
1	Healthcare Practitioners and Technical Occupations	8,237	802
2	Architecture and Engineering	766	474
3	Computer and Mathematical	958	828
4	Education, Training, and Library	656	507
5	Life, Physical, and Social Science	363	301

This table displays the five occupational groups with candidates than job openings on January 19. The region was facing a shortage of healthcare practitioners of 7,435 candidates; 474 shortage in the architecture and engineering; 130 in computer and mathematical applicant; and 62 in the life, physical and social science group. Occupations with the greatest differences in the number of candidates vs. the number of job openings can be found in the Area Profile section of jobs4tn.

Several occupational groups in the East Region have a significant surplus of job candidates over job openings. These include Office and Administrative Support candidates (surplus of 3,670); Transportation and material moving occupations (surplus of 946); production occupations (1,713); and construction and extraction (1,151). Some of these workers may need to gain skills to move into occupations in greater demand in their region.

Effects of the Pandemic on the Tennessee Labor Force

An analysis of the continued unemployment claims received by Tennesseans by race, ethnicity, gender and veteran status sheds light on the effects of the pandemic and the need for workforce services to focus on those groups who continue to be most affected.

Table 31: Continued Claims Received in Tennessee, Selected Time Periods 2020-2021

Description	2021/12	2020/12	2020/04	% 2021/12	% 2020/12	% 2020/04	% pop 2020
Total Continued Claims, All Types	21,196	194,104	574,210				
By Race							
White	11,473	102,539	384,139	54.13%	52.83%	66.90%	77.58%
Black	7,474	76,424	125,588	35.26%	39.37%	21.87%	16.76%
Asian	205	2,590	15,683	0.97%	1.33%	2.73%	1.75%
American Indian or Alaska Native	237	2,291	5,356	1.12%	1.18%	0.93%	0.90%
Native Hawaiian or Other Pacific Islander	57	508	1,494	0.27%	0.26%	0.26%	
Race Unknown	1,753	9,766	41,956	8.27%	5.03%	7.31%	
(Two or more races)							2.20%
By Gender							
Male	9,735	90,181	259,416	45.93%	46.46%	45.18%	
Female	11,165	102,846	297,650	52.68%	52.98%	51.84%	
NA	291	1,066	17,138	1.37%	0.55%	2.98%	
By Ethnicity							
Hispanic or Latino	627	5,300	20,400	2.96%	2.73%	3.55%	7.00%
By Veteran Status							
Veteran	799	6,813	25,249	3.77%	3.51%	4.40%	8.20%
Non-Veteran	20,401	187,302	548,948	96.25%	96.50%	95.60%	
Information not available	0	0	20	0.00%	0.00%	0.00%	

Source: TDLWD, WIRED, TN PROMIS Database

The number of continued claims was reviewed for April 2020 (the period in the pandemic with the highest unemployment rate), December 2020, and December 2021. The final column in the table displays the percentage of individuals in the

population of Tennessee in 2020. White Tennesseans had a high rate of receipt of claims in April 2020, which declined as the economy improved through December 2021 as more returned to work. Black workers received continued claims at a higher rate than their share of the population, and their share of the total number of claims increased through December of 2021. Hispanic/Latino individuals received a smaller percentage of claims than their share of the population. More females than males were paid continued claims during all time periods. Information was not available by race and gender. Veterans made up more than eight percent of the population, but only about four percent were receiving claims.

Michele Holder, Janelle Jones, and Thomas Masterson researched the effects on Black women's employment of the early part of the pandemic⁸. Their research suggests that their greatest employment losses were cashier jobs in the hotel and restaurant industry and childcare worker jobs in the healthcare and social services industry. These industries had significant losses in employment in the early pandemic. In Tennessee, cashiers and childcare workers were among the top 20 occupations with the highest number of claims filed in mid-2021. In the East, Middle, and West Regions, many of the claims filed were by low-wage workers in the leisure and hospitality industries⁹ who now may need to upgrade their skills to re-enter the workforce.

More granular Information on outcomes by population groups are not currently available for workforce programs except for adult education. See the table below.

Adult Education HISET Participants, PY 21

TN (Statewide)		
Total Students	Female	1663
	Male	1531
Hispanic	Female	161
	Male	136
American Indian	Female	42
	Male	43
Asian	Female	38
	Male	20
Black	Female	291
	Male	224
Pacific	Female	9
	Male	8
White	Female	865
	Male	874
Multi-race	Female	66
	Male	75

⁸ Holder, M., Jones, J., and Masterson, T. (2021). The early impact of COVID-19 on job losses among Black women in the United States. *Feminist Economics*, 27 (1-2), 103-116.

⁹ TN Department of Labor and Workforce Development, WIRED Division. (2021). 2021 Reference Guide Tennessee's Economy, pp. 5-7.